FINAL

INSTALLATION RESTORATION PROGRAM

CLOSURE INVESTIGATION REPORT
SITE 1 - FORMER BASE LANDFILL

STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

VOLUME II OF II

APRIL 1997

Prepared For
AIR NATIONAL GUARD READINESS CENTER
ANDREWS AFB, MARYLAND 20762-5157

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Prepared By

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STEWART AIR NATIONAL GUARD BASE

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INTRODUCTION

The magnetic method is a versatile, relatively inexpensive, geophysical exploration technique. Magnetic data can be acquired on land or water, or in the air. Aeromagnetic surveys and deep water marine studies are commonly used as a reconnaissance tool for evaluating hydrocarbon prospects. Land-based or coastal water marine magnetic surveys are usually done for evaluating shallow geologic structures (e.g., shallow mineral deposits) in detail. Such surveys have also been used successfully in locating manmade features; for example, in archeological prospecting.

More recently, the focus of national attention on the hazardous waste problem has prompted routine use of magnetometers for locating repositories of buried (drummed) wastes. Locating and quantifying these materials is essential to any remediation effort, and magnetometer surveys can provide an extra measure of safety to those personnel involved in the clean-up activities.

EARTH MAGNETISM

Although the origin of the earth's magnetic field is not well understood, it is known that the earth behaves magnetically, as if a large bar magnet were located near its center. The axis of this "magnet" is oriented at a small angle, which produces the differences between "true" north and "magnetic" north. The angle is called the declination. The lines of magnetic force are nearly horizontal at the equator and nearly vertical at the poles. The angle between these lines of force and horizontal at any point on the earth's surface is known as the inclination.

The strength of the magnetic field also varies over the surface of the earth, and is stronger at the poles than at the equator. The strength of the field is approximately 60,000 gammas at the poles and 30,000 gammas at the equator (where 1 gamma = 0.00001 Gauss).

The earth's magnetic field (sometimes referred to as its "ambient" field) is modified locally by both naturally occurring and manmade magnetic materials. Two types of magnetization contribute to this: induced and remanent. Induced magnetization refers to the ability of a material to act as a magnet itself, thereby enhancing the ambient field. The more the ambient field is enhanced by a material, the greater is the "magnetic susceptability" for that material.

Remanent or permanent magnetization often predominates over induced magnetization in igneous rocks and metals. (Remanent refers to rocks, whereas permanent refers to metals). Remanent or permanent magnetization is produced in materials that have been heated above the Curie point, allowing magnetic minerals to align with the earth's ambient field before cooling. The remanent field direction is not, in general, parallel to the earth's present field. It may, in fact, act in the opposite direction. The remanent field combines vectorially with the ambient and induced field components, and any quantitative

interpretation of magnetic data should consider this if such information is available.

INSTRUMENTATION

Although many types of magnetometers are available, by far the most widely used is the "proton precession" type. This device utilizes the precession of spinning protons of hydrogen atoms in a sample of hydrogen-rich fluid (i.e., kerosene, alcohol, or water) to measure the total magnetic field intensity.

Protons spinning in an atomic nucleus behave like tiny magnetic dipoles which can be aligned (polarized) by an external magnetic field. The protons are initially aligned parallel to the earth's field. A second, much stronger magnetic field is produced approximately perpendicular to the earth's field by introducing electric current through a coil of wire. The protons become temporarily aligned with this stronger field. When this stronger field is removed, the protons tend to realign themselves with the earth's field, causing them to precess about this direction at a frequency of about 2,000 Hz. The precessing protons will generate a small electric signal in the same coil used to polarize them, with a frequency proportional to the total magnetic field intensity and independent of the coil orientation. By measuring the signal frequency, one can obtain the absolute value of the total earth's field intensity to an accuracy of 1 gamma or better. The total magnetic field value measured by the proton precession magnetometer is the net vector sum of the ambient earth's field and any local induced and/or remanent (permanent) perturbations.

FIELD TECHNIQUES

In the field, the operator should avoid any source of high magnetic gradients (e.g., powerlines, buildings, or large iron or steel objects). The operator should also avoid carrying any unnecessary metal articles. Magnetic stations are established at intervals that reflect the nature of the survey and the magnetic gradients encountered.

At hazardous waste sites, a typical "rough" reconnaissance grid might start out at a 25-foot interval, and would be closed down to 3 or 5 feet in areas where fine detail is desired. Base station readings should be taken frequently (every 30 to 60 minutes) to provide a check on diurnal variations and magnetic storms that may occur during a survey. Typically, diurnal variations will not exceed a few tens of gammas, but magnetic storms may produce changes in the earth's field of thousands of gammas in a short period of time (the order of hours). If survey requirements dictate, it may be prudent to establish a continuously recording magnetic base station to account for diurnal variations. If a magnetic storm occurs, survey operations should cease until the storm is over.

INTERPRETATION

For typical manmade iron or steel objects, one may quantify estimates for the approximate depth of burial and the amount of metal which produces an observed

magnetic perturbation (or anomaly). The size of the anomaly (T) can be expressed as:

$$T = (M)/(r)^n$$

where "M" is the magnetic moment of the source, "r" is the depth to the source, and "n" is a measure of the rate of decay with distance (n = 3 for a dipole source and 2 for a monopole source).

Assuming a dipole source, the weight of a metal object (in pounds) can be expressed by the following relation:

$$\text{Weight} = ((T)*(r)^3)/(M)$$

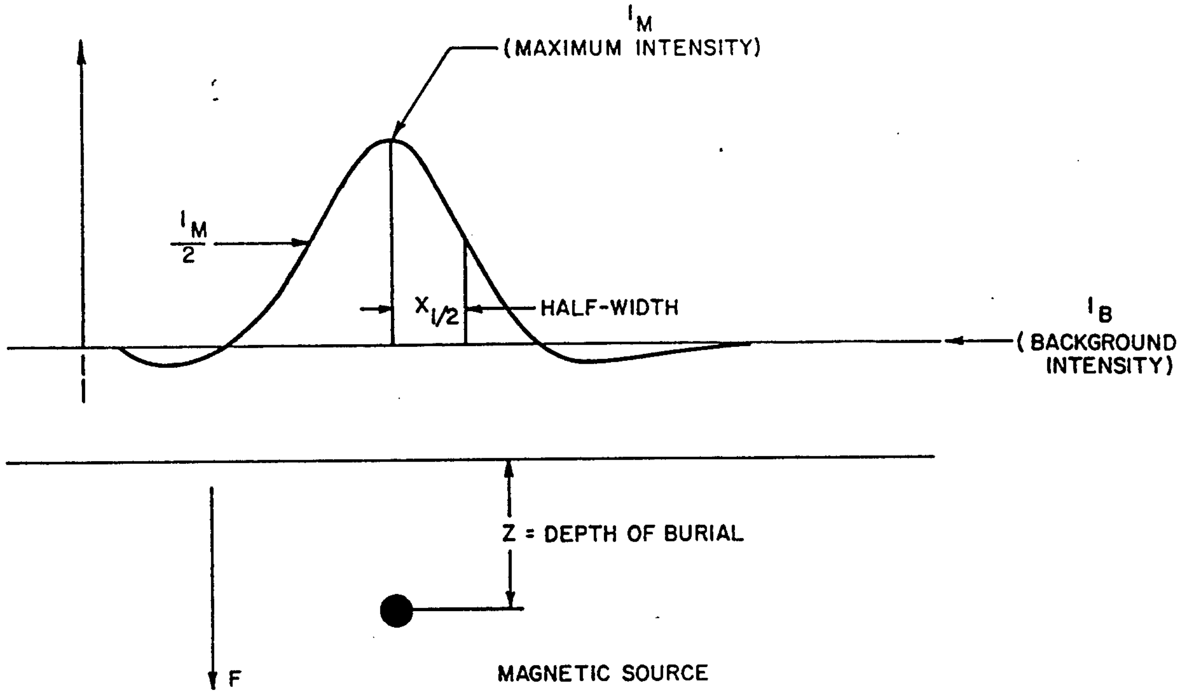
where "M" is the magnetic moment per pound of iron and varies from approximately 175 to 1750, "r" is the depth in feet (below the sensor), and "T" is the anomaly amplitude in gammas.

The depth, "r", of a magnetic source can be estimated by a number of techniques, but perhaps the simplest is by the "half-width" rule. This states that for simple anomaly sources, the depth to the center of the anomaly is equal to the "half-width" of the anomaly. The half-width is the horizontal distance between the maximum value of the anomaly and the point at which the value is one-half the maximum value (Figure A-1).

A further refinement in magnetic studies is permitted with the addition of vertical gradient measurements. This involves the simultaneous acquisition by two sensors of two values of the total field. The sensors are mounted on a staff that is held vertically during a measurement. A known distance (commonly one-half or one meter) separates the sensors on the staff. Vertical gradient measurements tend to be more sensitive to the presence of near surface metal objects than total field values alone. There are commercially available magnetometers that record field data in an internal memory which can be "dumped" onto a personal computer at the completion of field activities. These instruments can record the total field value, the vertical gradient, the time and date of the measurement, and the station location (input by the user), as well as a number of parameters which permit an evaluation of data quality.

The vertical gradient data obtained during the present study are presented as Figures A-2 through A-19. The reader is referred to the main text (Section 5.0) for a discussion of the interpretation and results of these data.

DEPTH CALCULATION/ METAL QUANTITY FOR TOTAL FIELD MEASUREMENTS:



T = MAGNETIC ANOMALY INTENSITY

= MAXIMUM ANOMALY INTENSITY MINUS BACKGROUND INTENSITY

$= I_M - I_B$

$$= \frac{M_{fps}}{r^3} = \frac{1.75 \times 10^2 \text{ to } 1.75 \times 10^3}{(1 \text{ to } 2)\, r^3}$$

where "M_{fps}" is the magnetic moment per pound of iron and "r" is the distance between the magnetometer sensor and the object (the depth of burial) "z" is equal to "r" minus the height of the sensor above the ground.

DEPTH CALCULATION FOR GRADIOMETER MEASUREMENTS

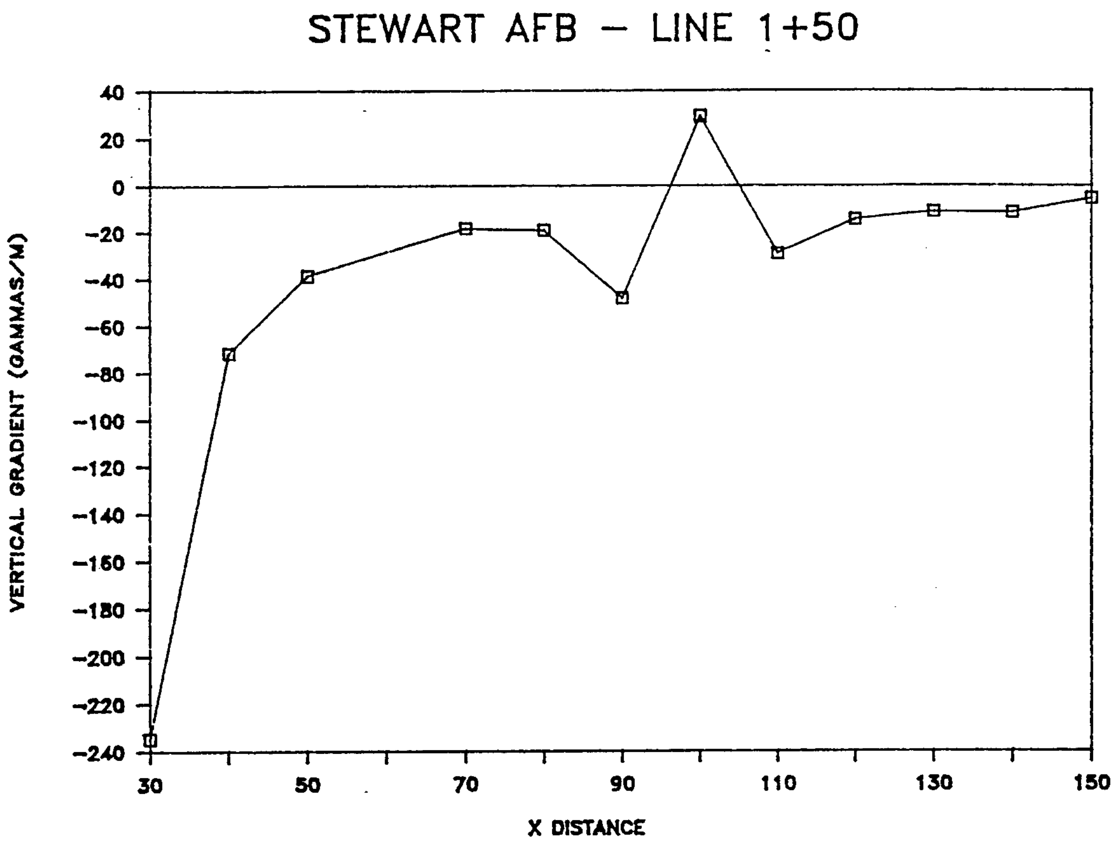
$$r = \frac{-nT}{\frac{dT}{dz}}$$

where "n" is the "falloff" factor and generally varies from 1 to 2, depending on the magnetic source, "r" is the separation between the midpoint between the two sensors and the object.

MAGNETOMETER DATA INTERPRETATION

FIGURE A-1

E.C.JORDAN CO.


STEWART AFB – LINE 1+50
VERTICAL GRADIENT (GAMMAS/M)
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-200
-220
-240
30
50
70
90
110
130
150
X DISTANCE

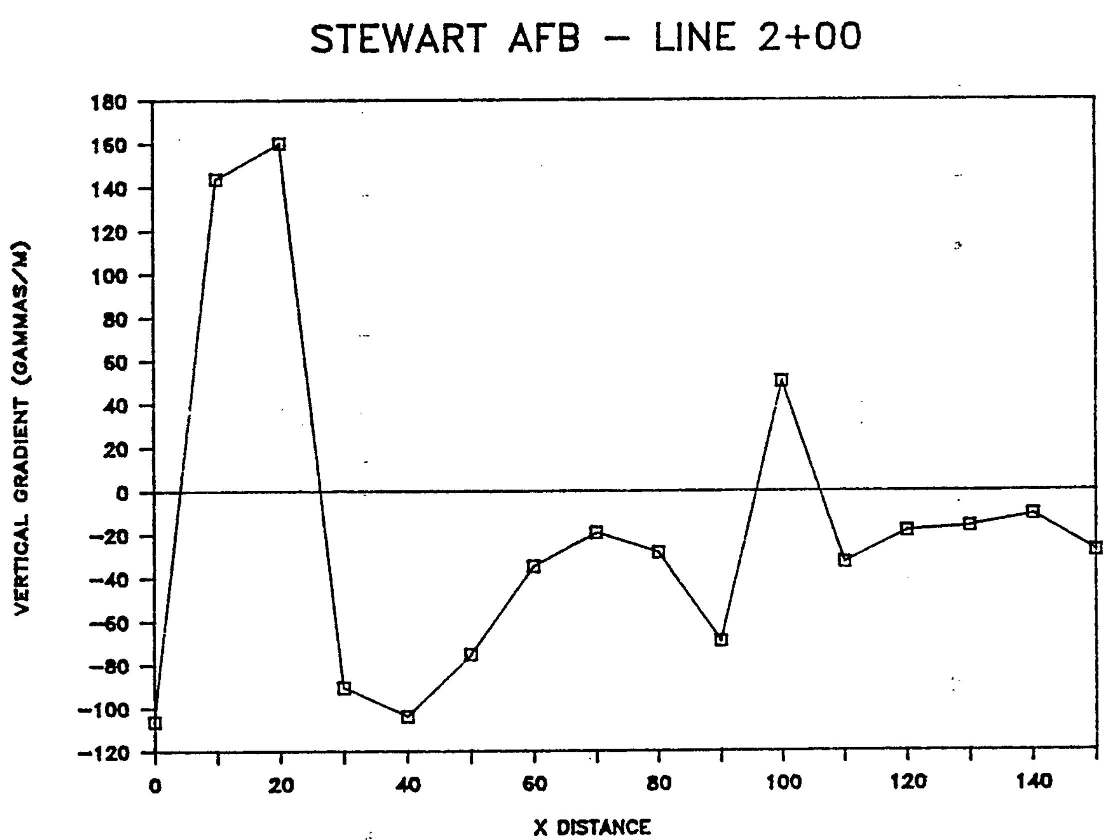
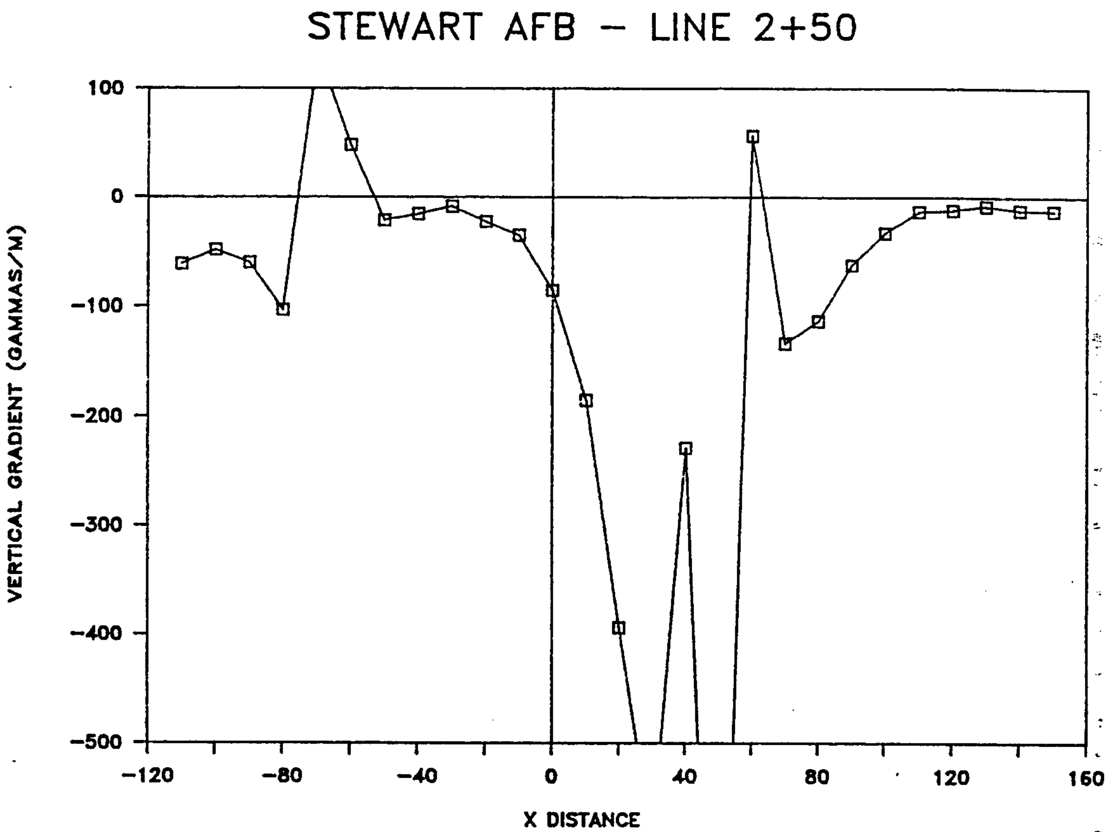
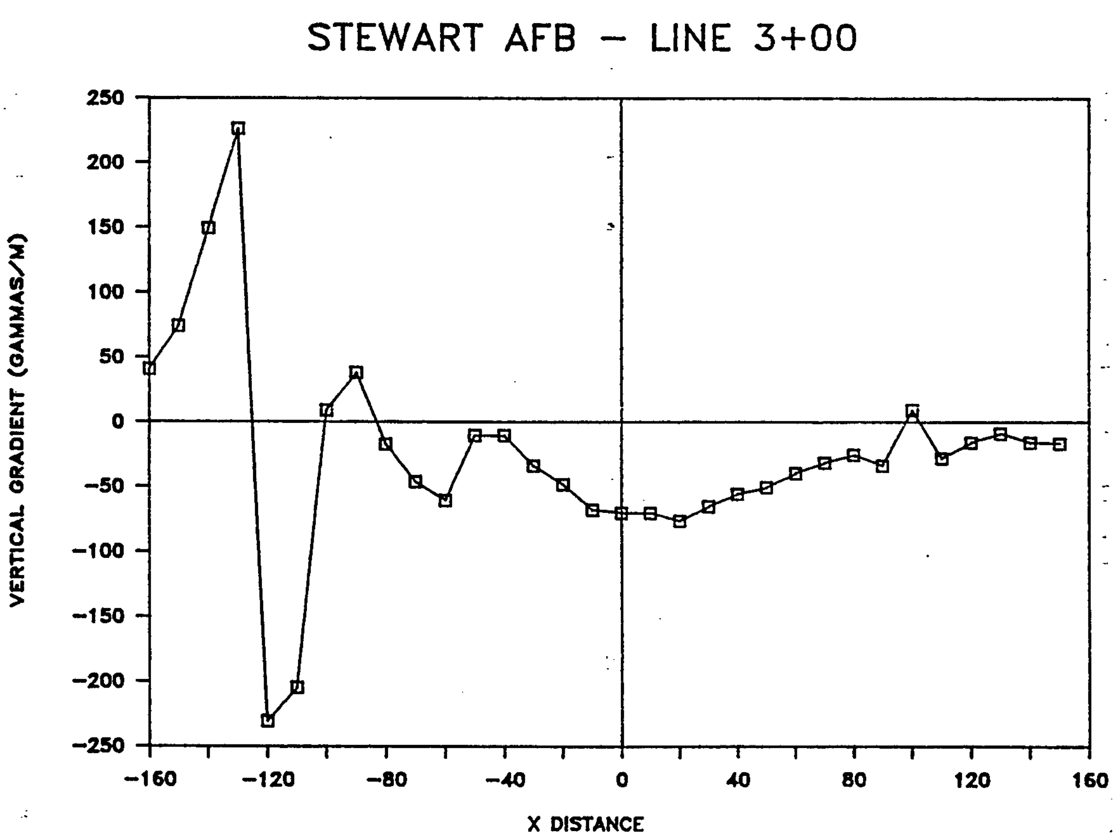

STEWART AFB – LINE 2+00
VERTICAL GRADIENT (GAMMAS/M)
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-80
-100
-120
0
20
40
60
80
100
120
140
X DISTANCE

FIGURE A-2



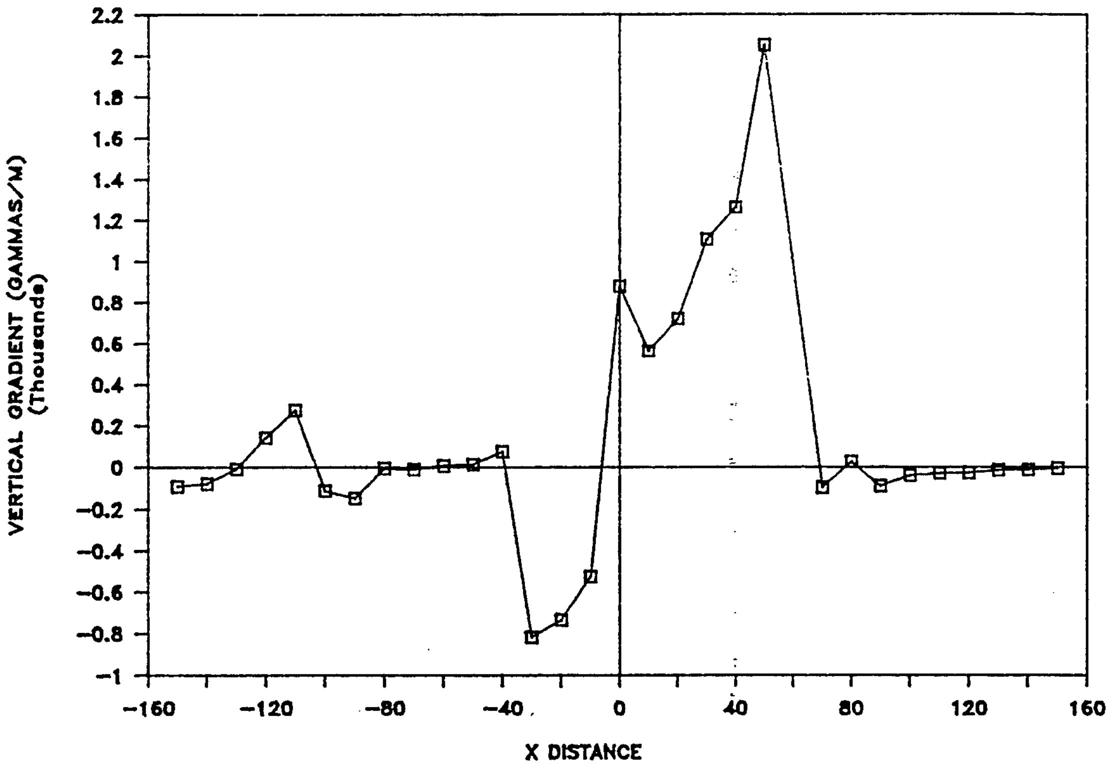
STEWART AFB — LINE 2+50
VERTICAL GRADIENT (GAMMAS/M)
100
0
−100
−200
−300
−400
−500
−120
−80
−40
0
40
80
120
160
X DISTANCE



STEWART AFB — LINE 3+00
VERTICAL GRADIENT (GAMMAS/M)
250
200
150
100
50
0
−50
−100
−150
−200
−250
−160
−120
−80
−40
0
40
80
120
160
X DISTANCE

FIGURE A-3

STEWART AFB – LINE 3+50



STEWART AFB – LINE 4+00

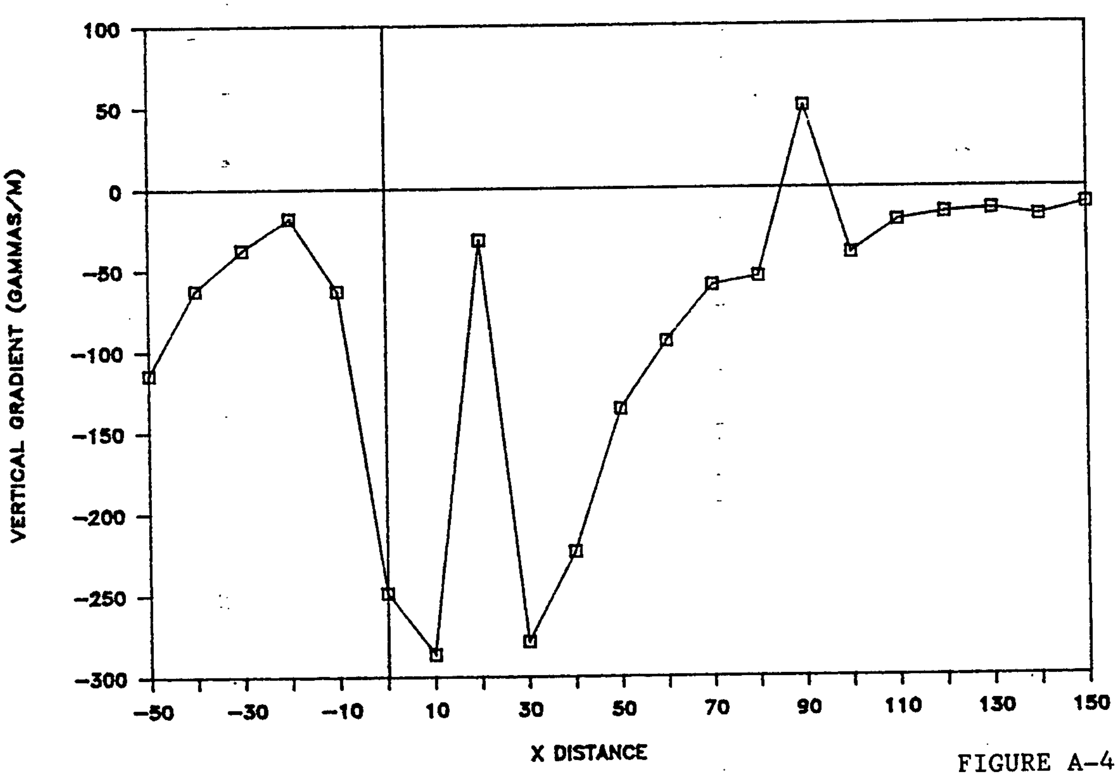
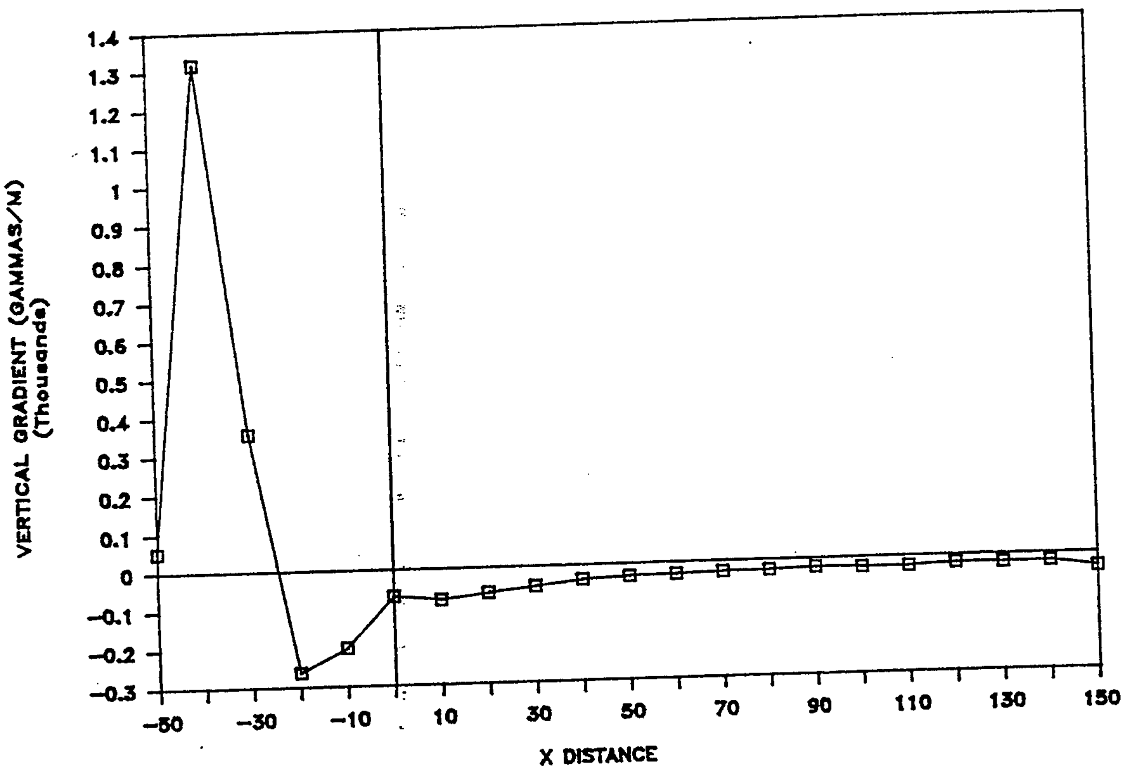


FIGURE A-4

STEWART AFB – LINE 5+00



STEWART AFB – LINE 6+35

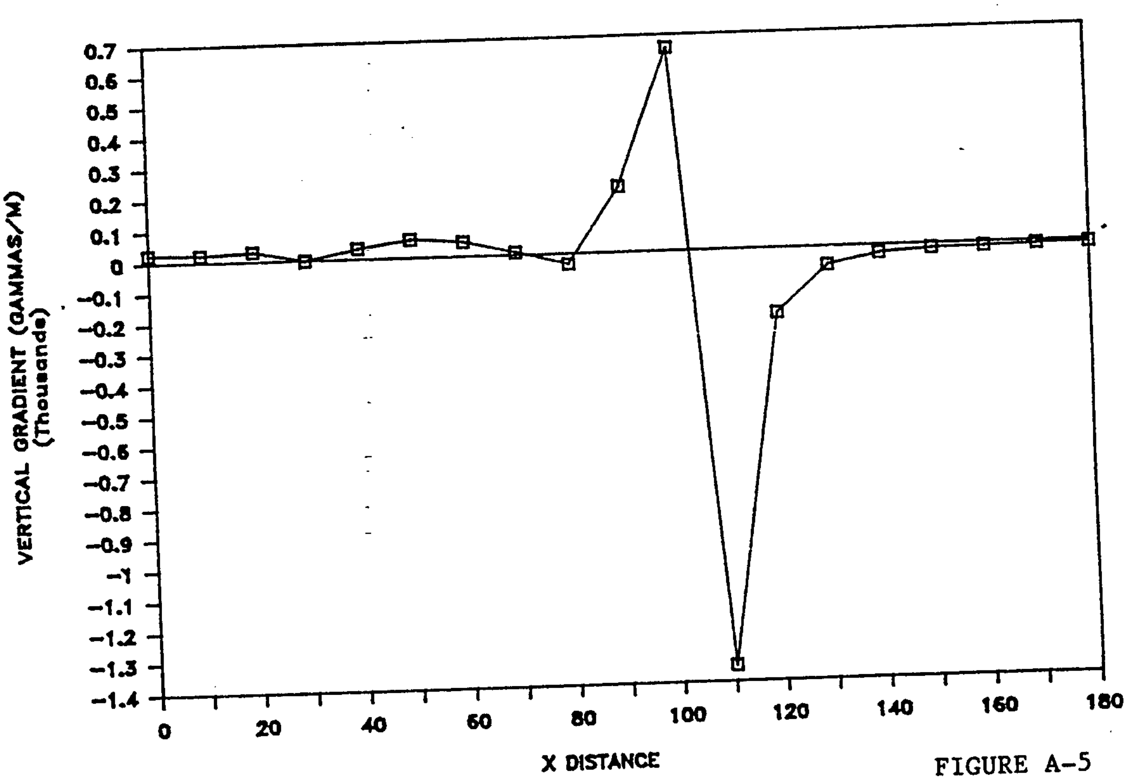


FIGURE A-5

STEWART AFB - LINE 6+65

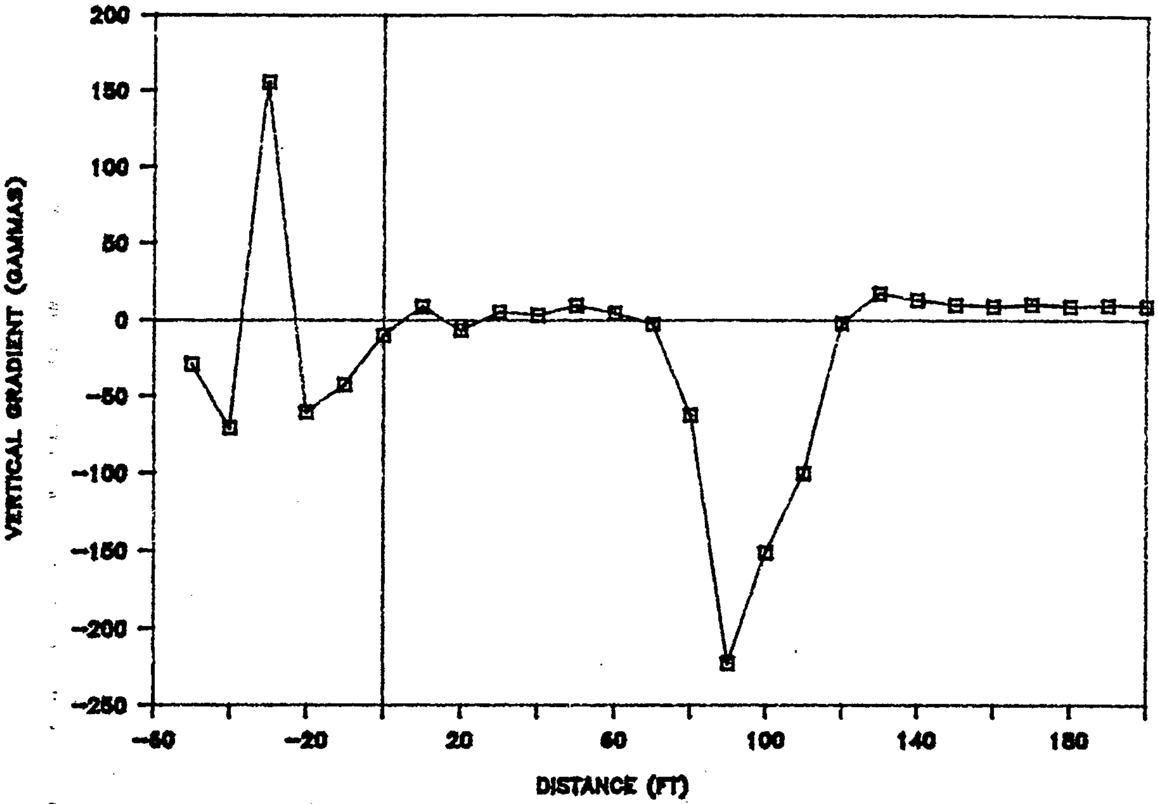
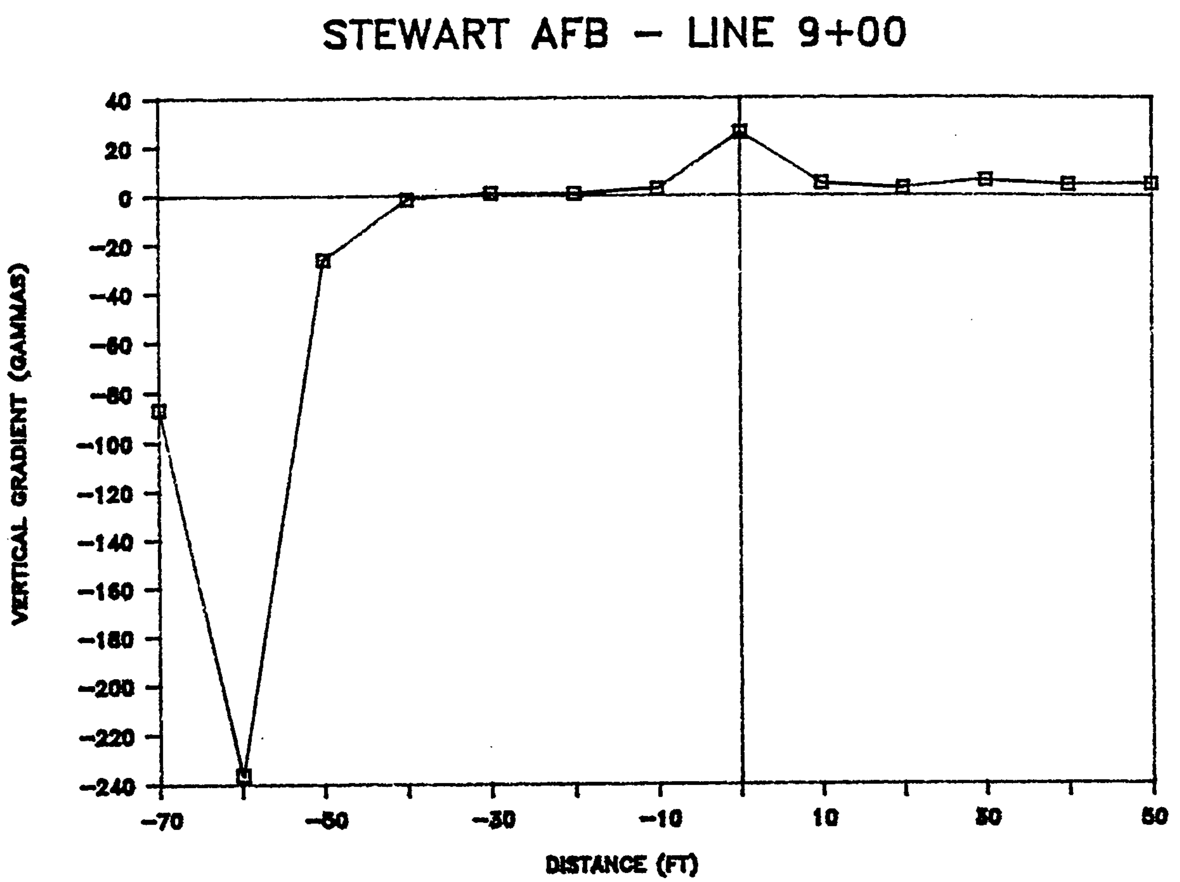


FIGURE A-6


STEWART AFB – LINE 9+00
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)
40
20
0
-20
-40
-60
-80
-100
-120
-140
-160
-180
-200
-220
-240
-70
-50
-30
-10
10
30
50

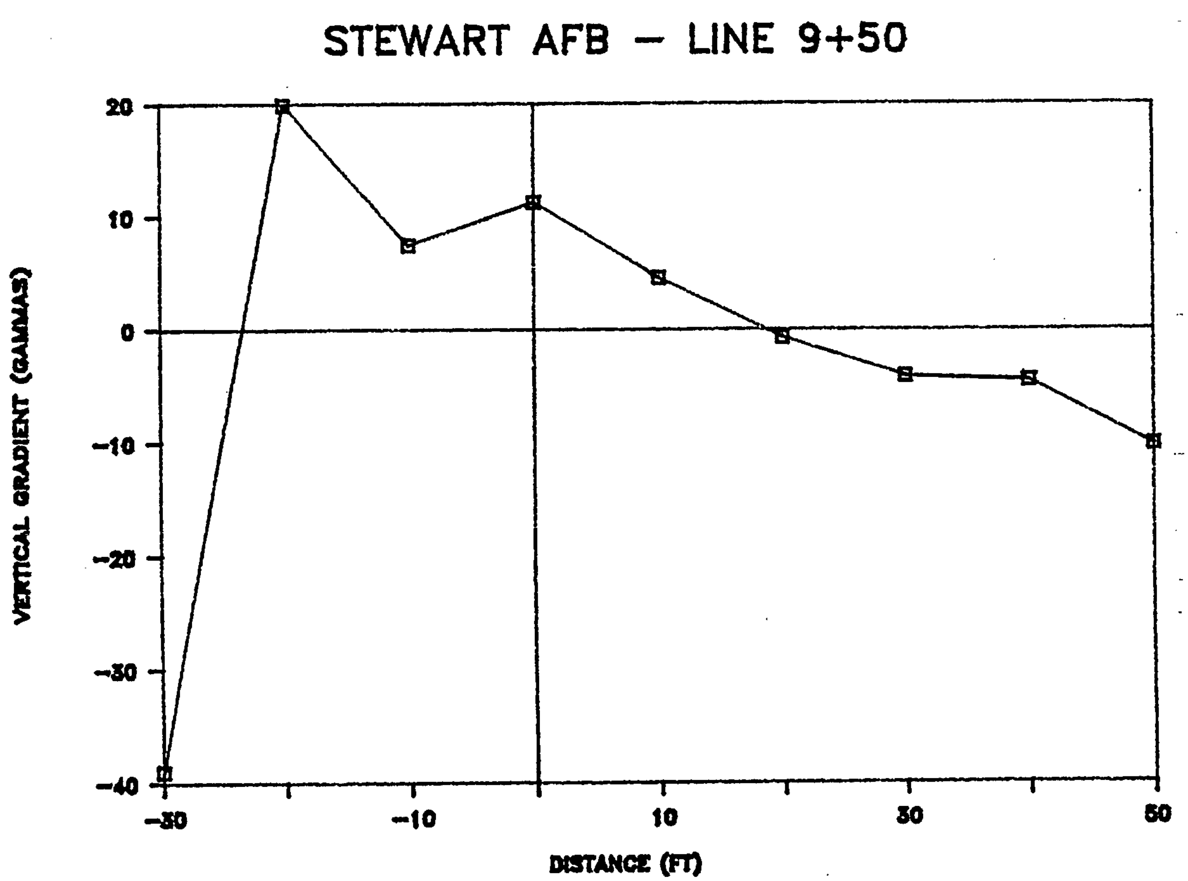
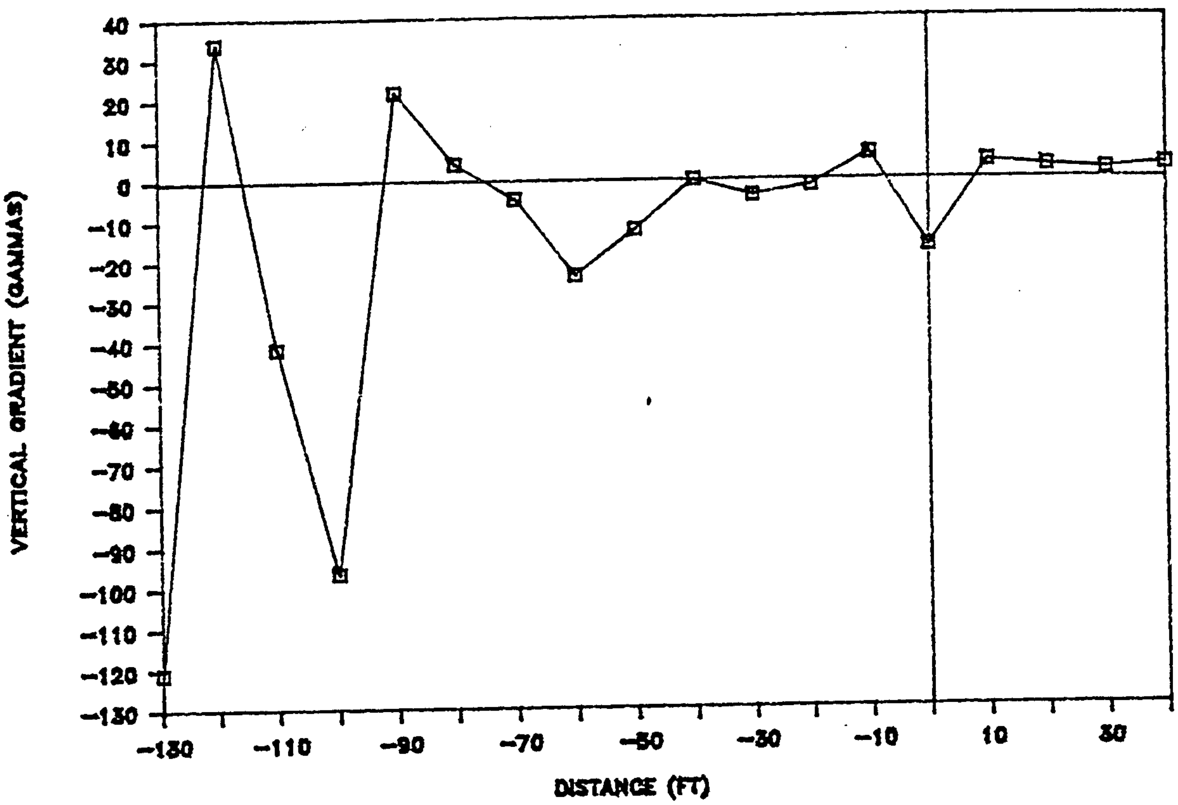

STEWART AFB – LINE 9+50
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)
20
10
0
-10
-20
-30
-40
-30
-10
10
30
50

FIGURE A-7

STEWART AFB – LINE 10+50



STEWART AFB – LINE 19+50

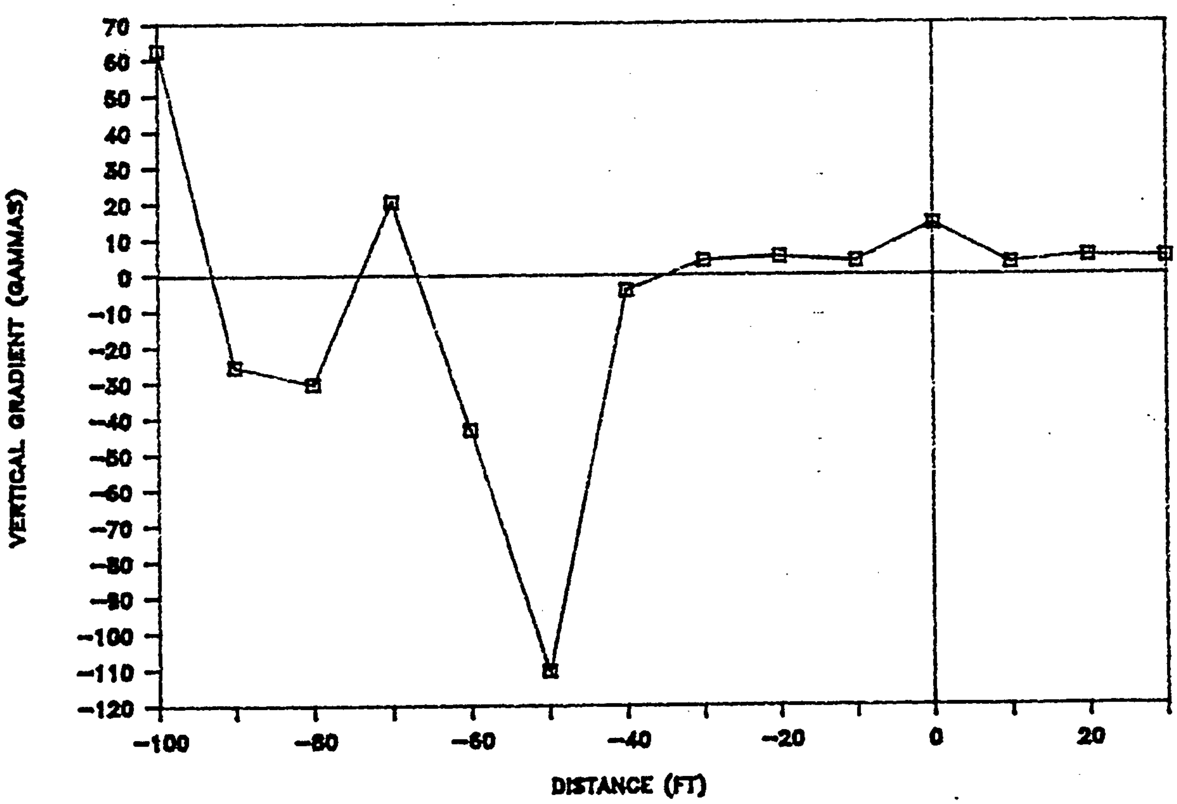
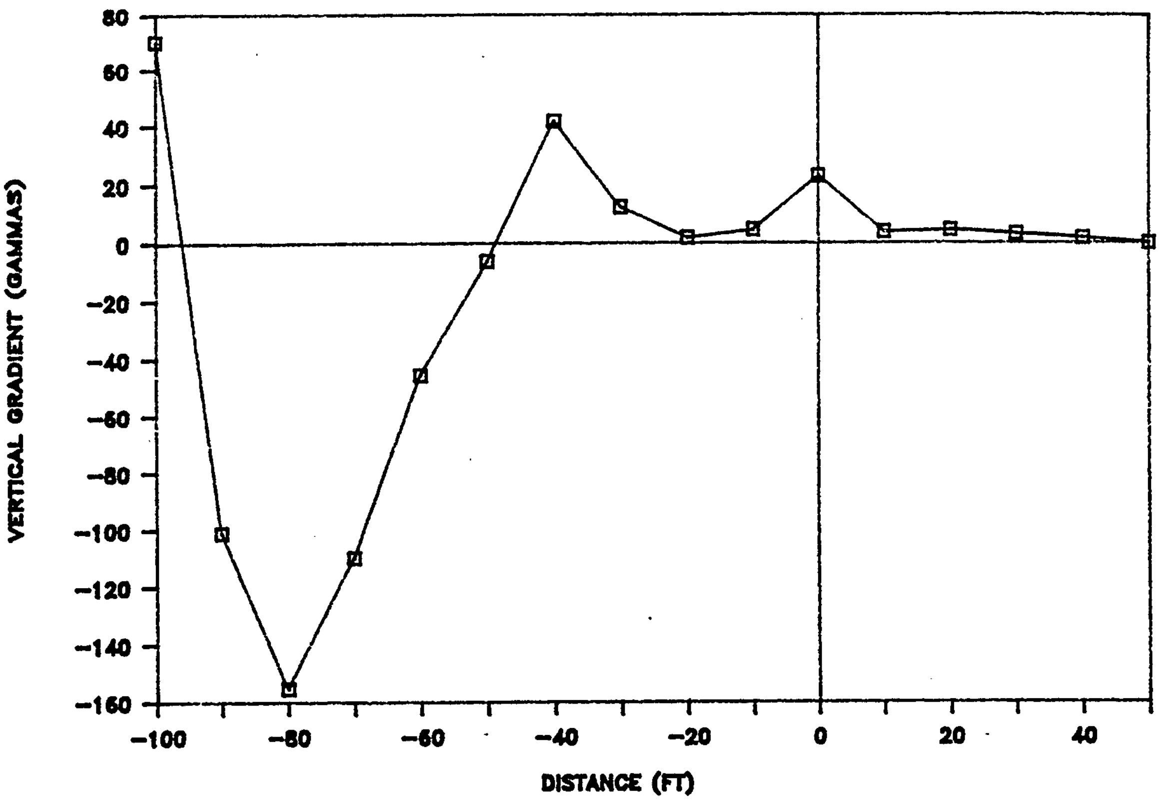


FIGURE A-8

STEWART AFB – LINE 20+00



STEWART AFB – LINE 20+50

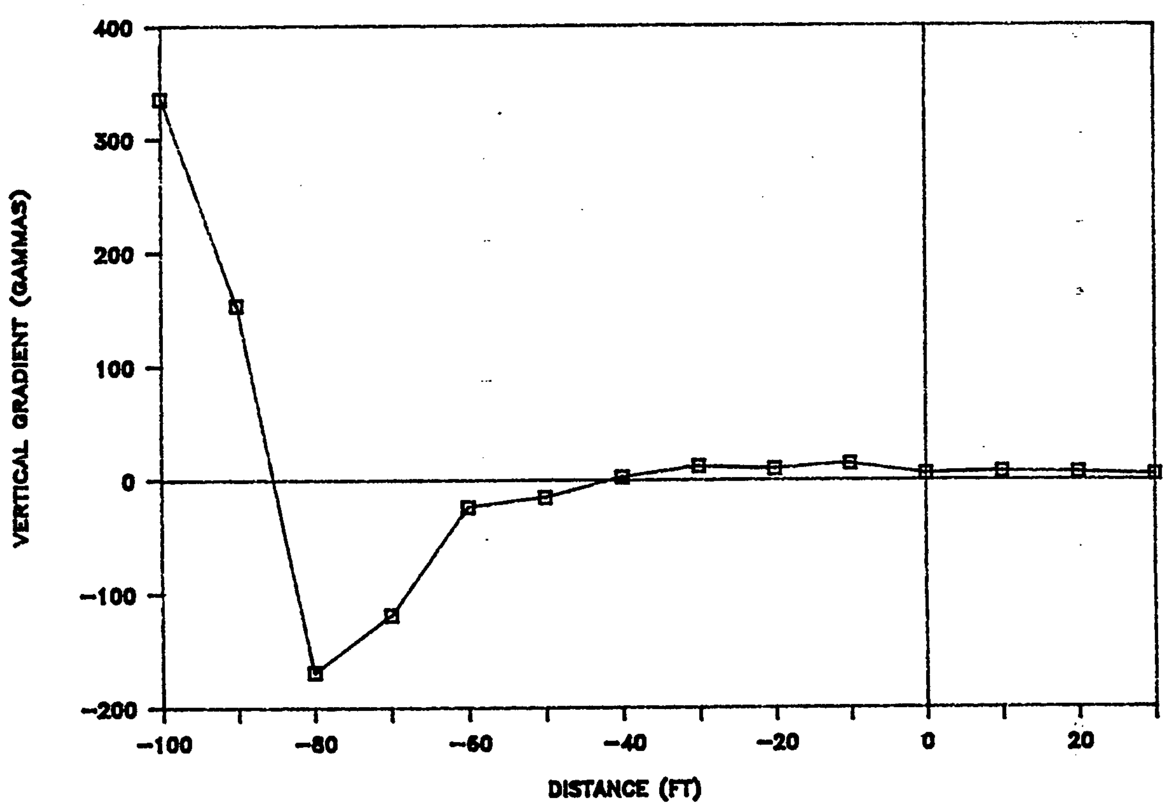


FIGURE A-9

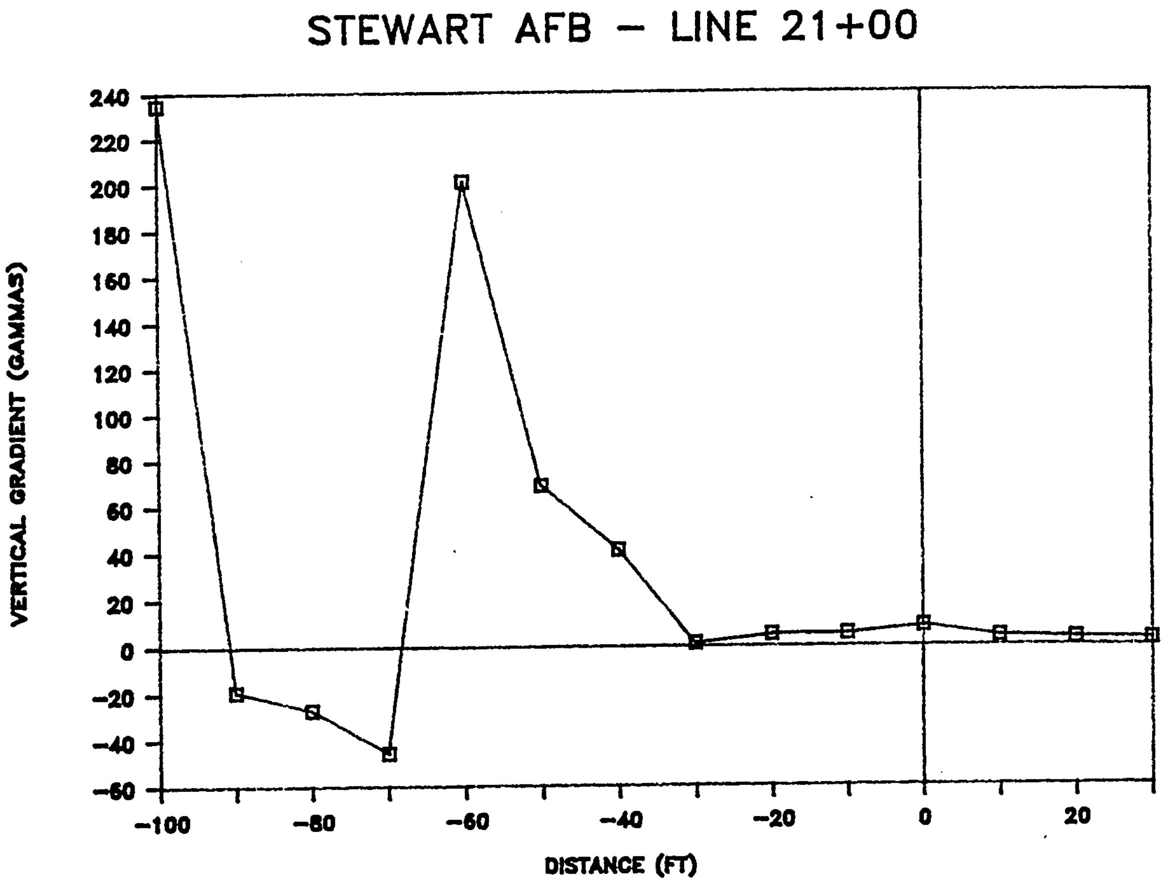
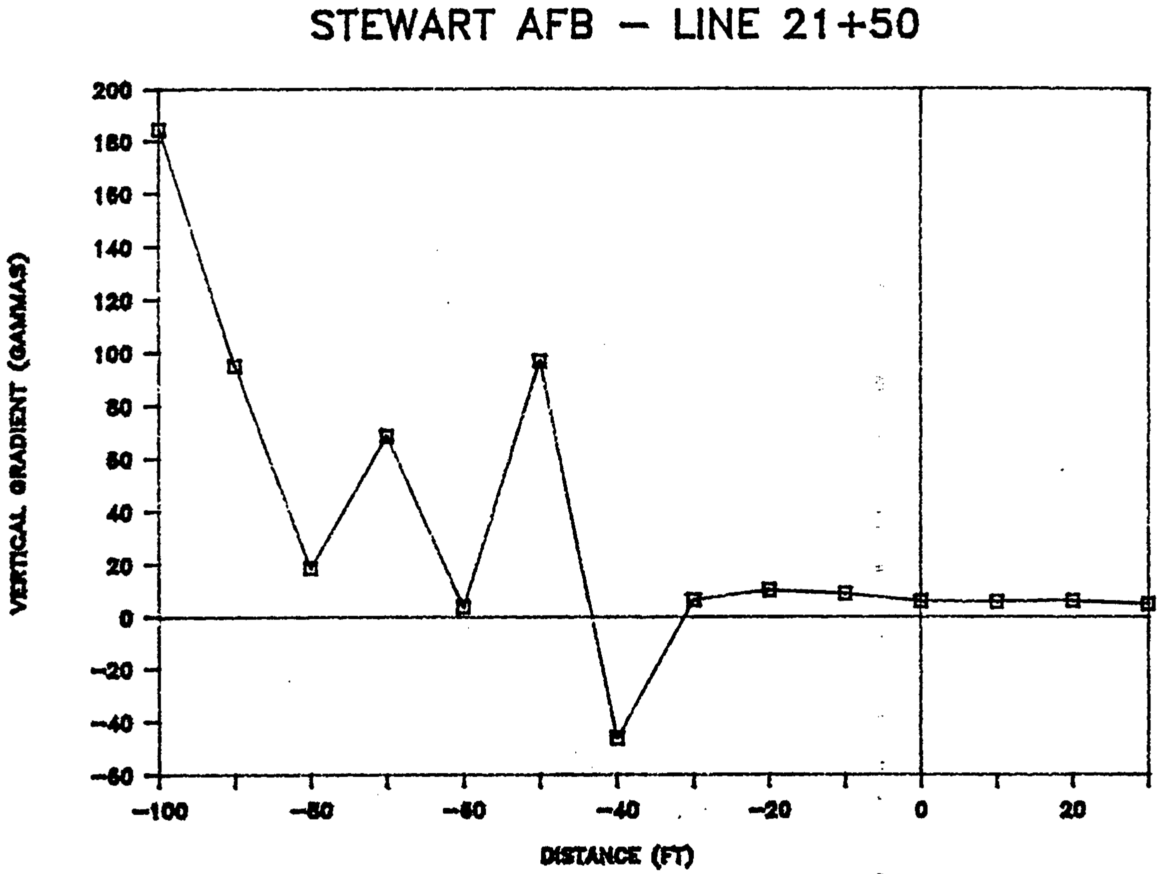

STEWART AFB – LINE 21+00
VERTICAL GRADIENT (GAMMAS)
240
220
200
180
160
140
120
100
80
60
40
20
0
-20
-40
-60
-100
-80
-60
-40
-20
0
20
DISTANCE (FT)

FIGURE A-10


STEWART AFB – LINE 21+50
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)

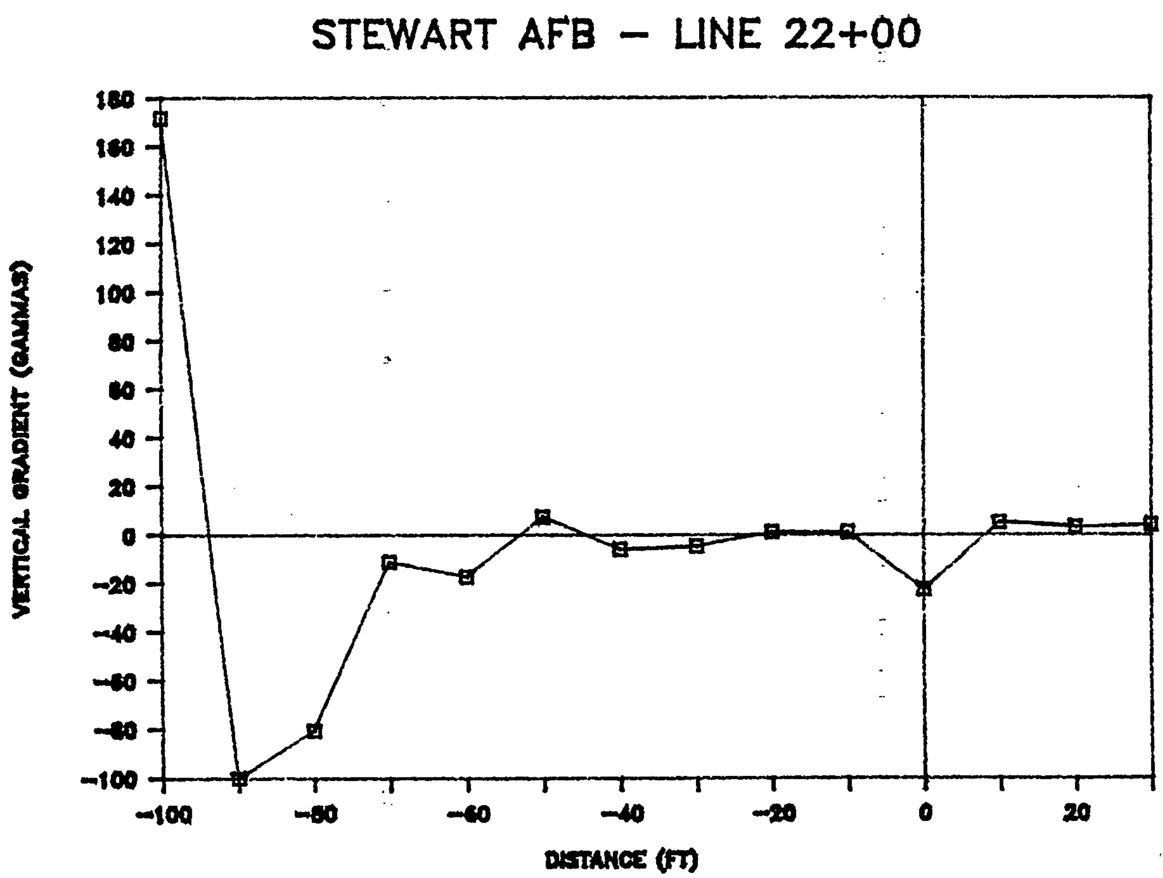
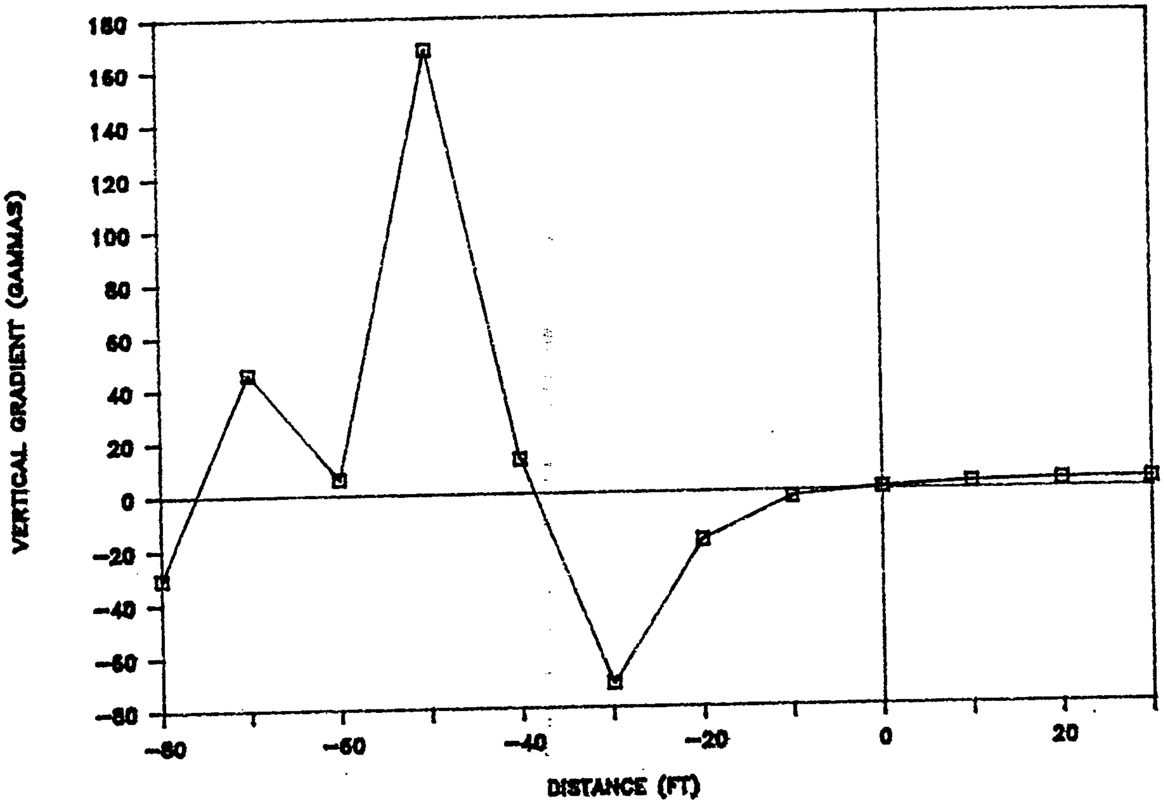

STEWART AFB – LINE 22+00
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)

FIGURE A-11

STEWART AFB – LINE 22+50



STEWART AFB – LINE 23+00

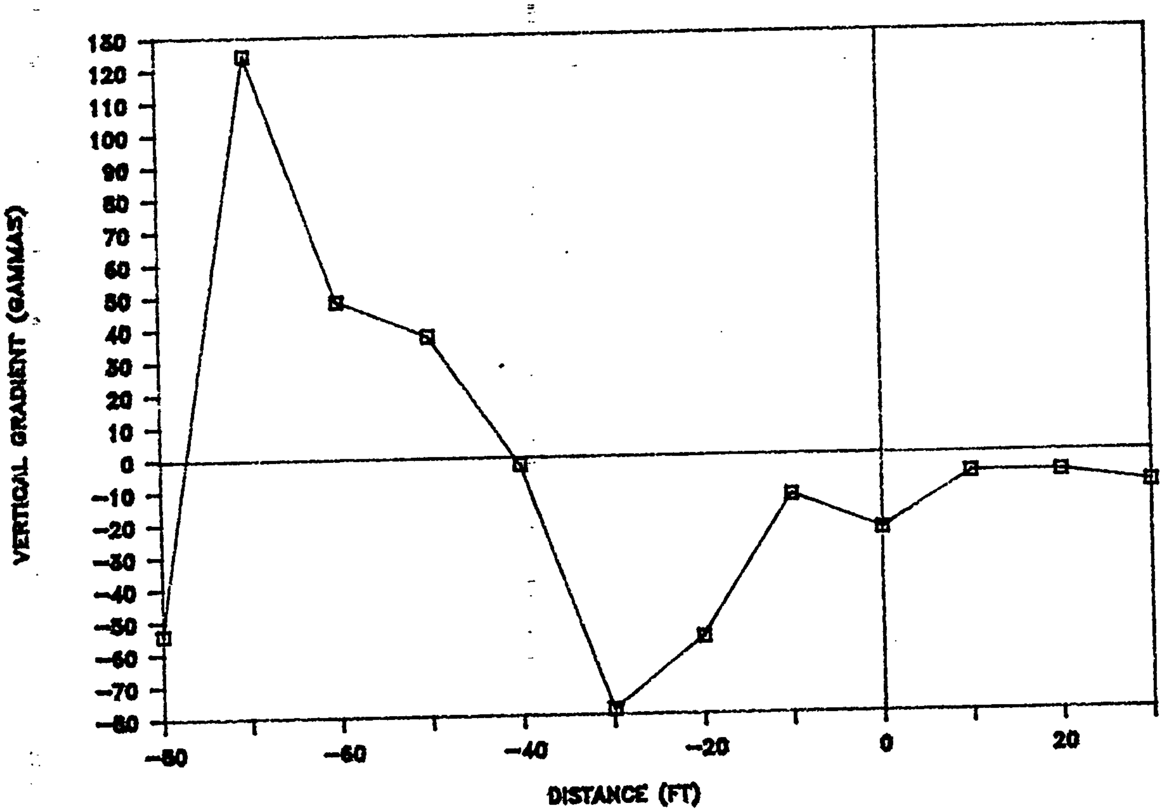
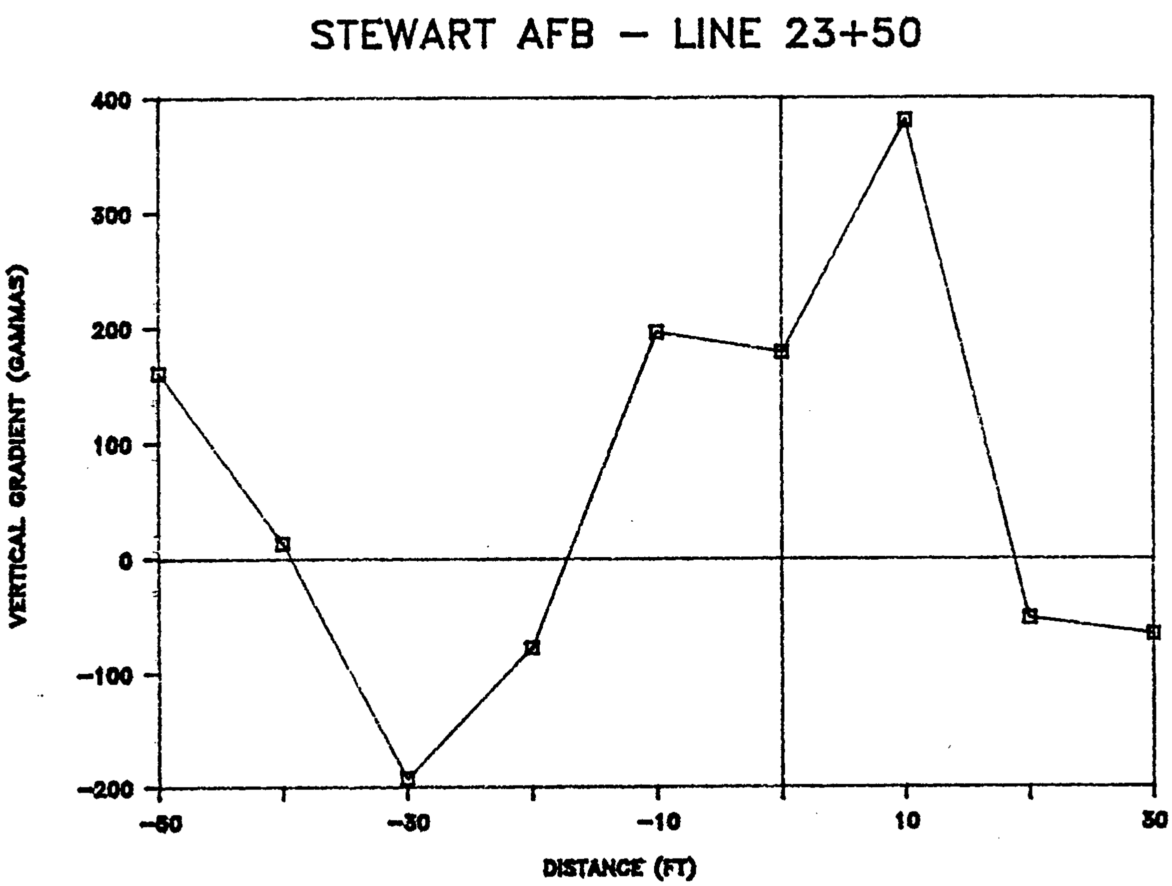


FIGURE A-12


STEWART AFB — LINE 23+50
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)

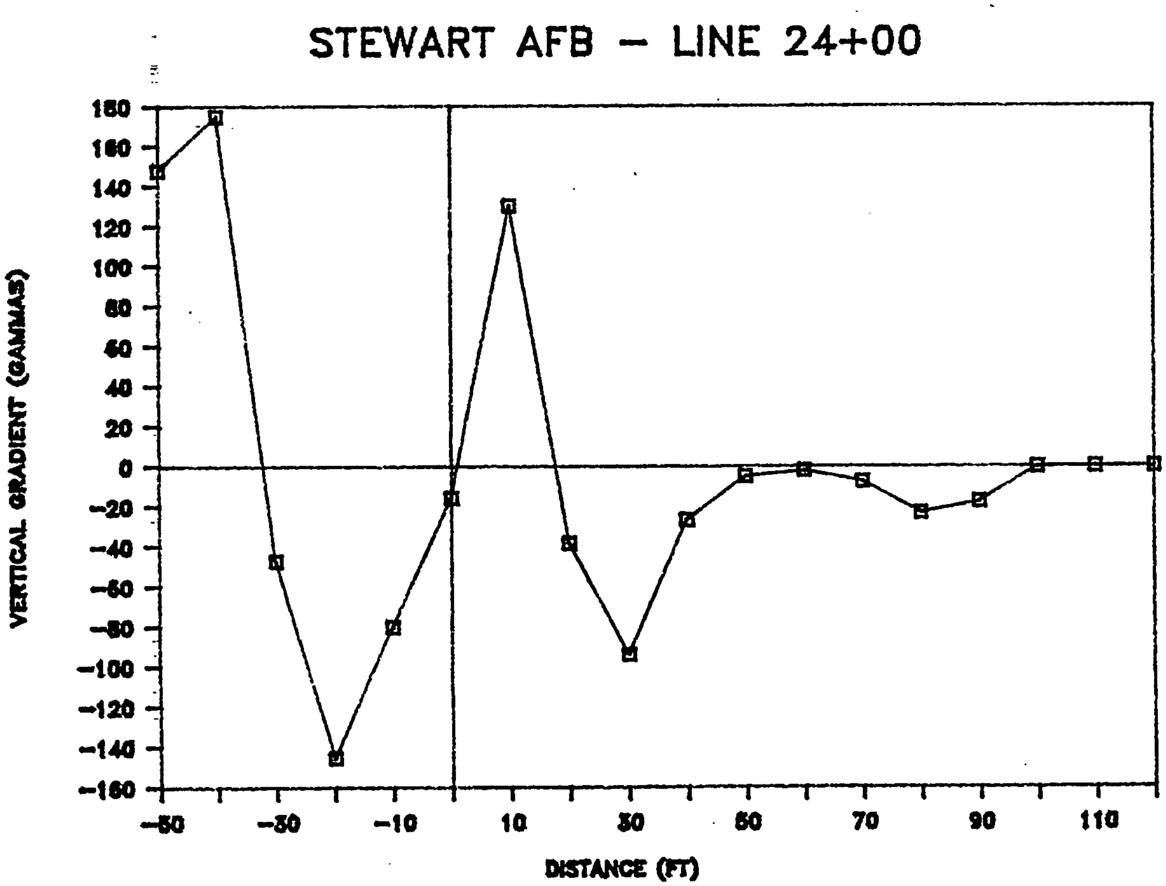
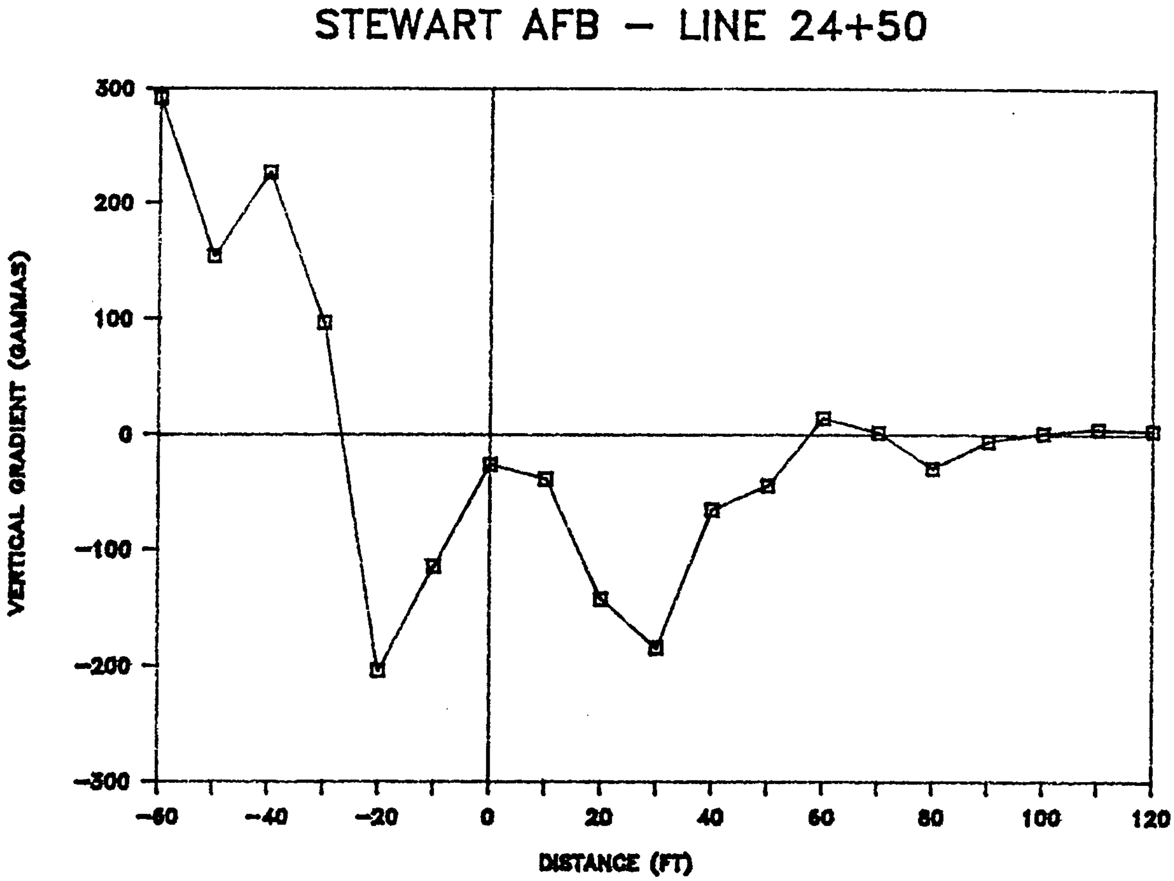

STEWART AFB — LINE 24+00
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)

FIGURE A-13


STEWART AFB — LINE 24+50
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)
300
200
100
0
-100
-200
-300
-60
-40
-20
0
20
40
60
80
100
120

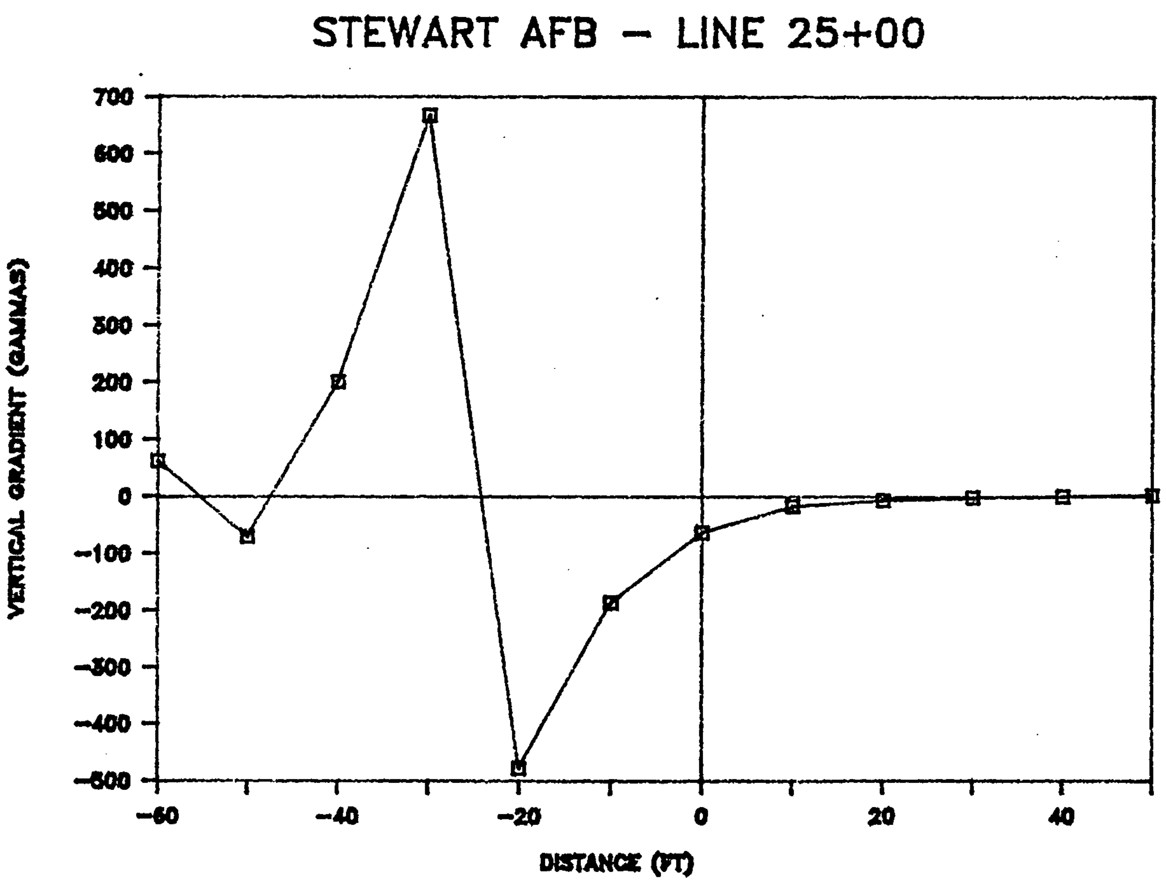
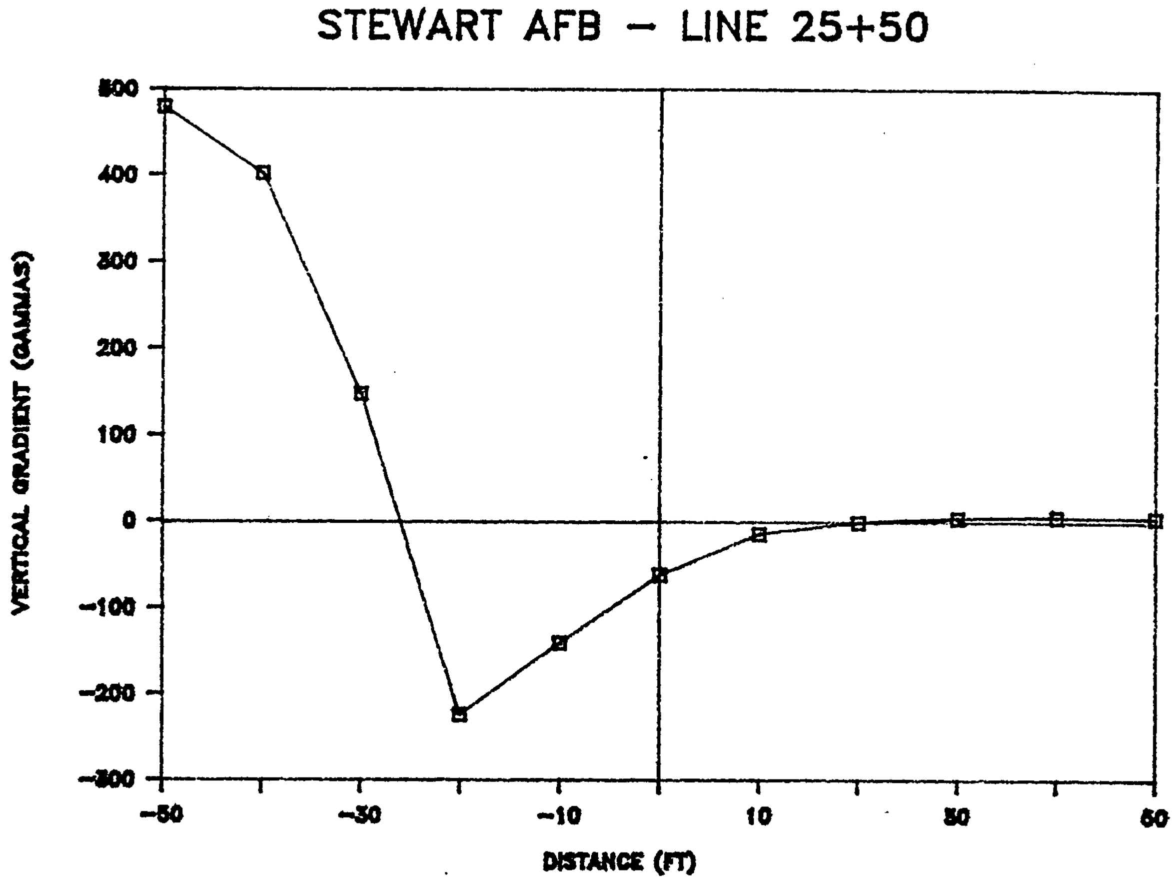

STEWART AFB — LINE 25+00
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)
700
600
500
400
300
200
100
0
-100
-200
-300
-400
-500
-60
-40
-20
0
20
40

FIGURE A-14


STEWART AFB – LINE 25+50
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)

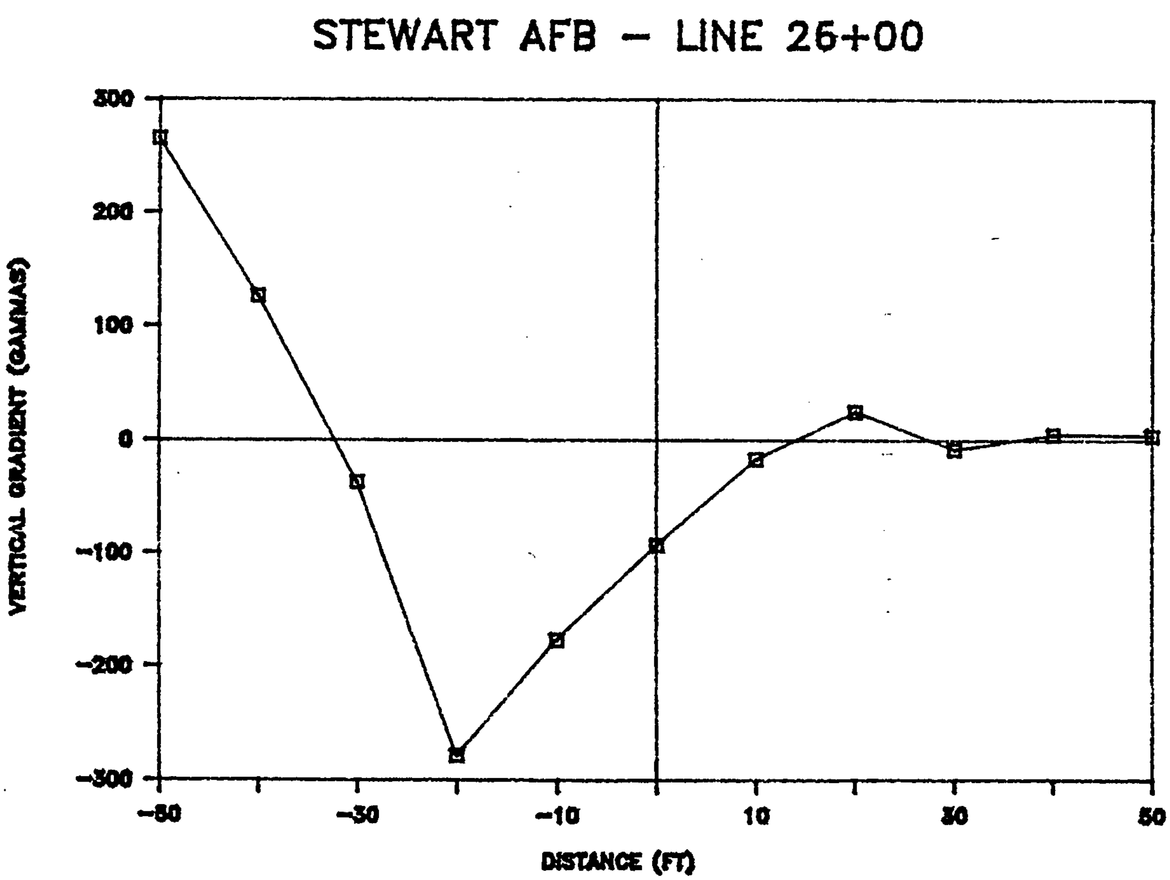
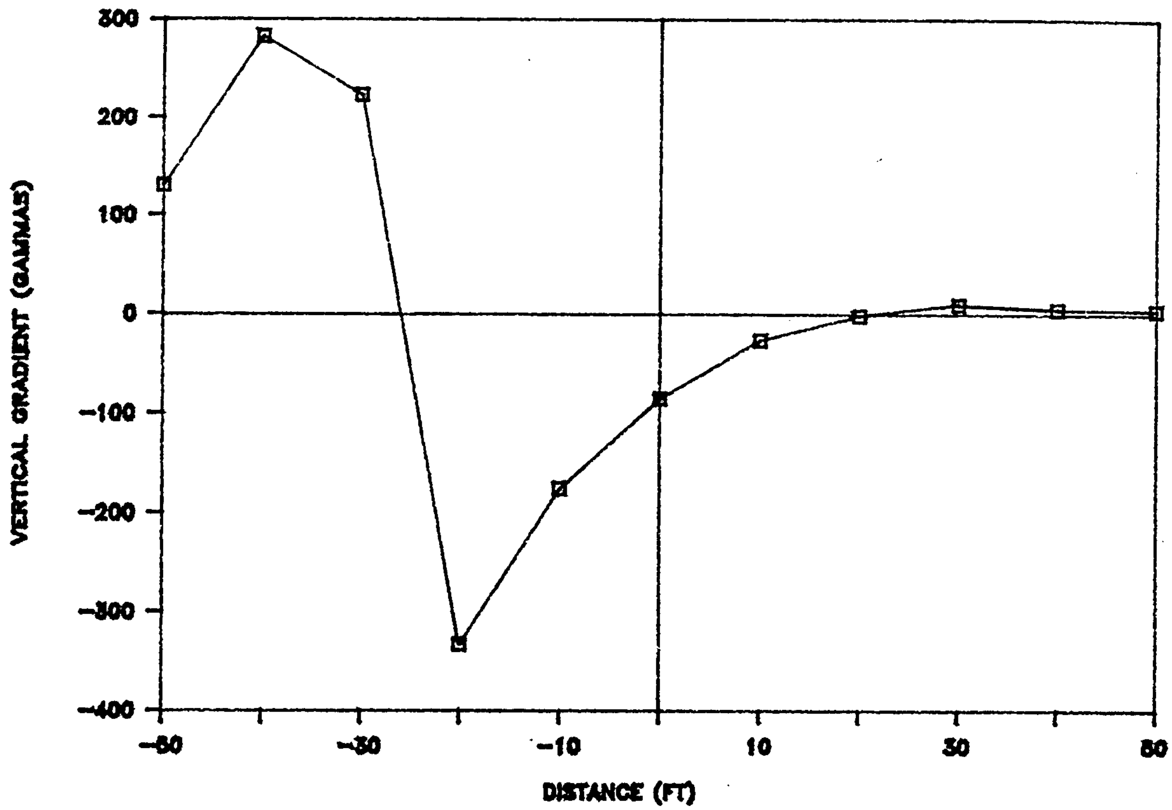

STEWART AFB – LINE 26+00
VERTICAL GRADIENT (GAMMAS)
DISTANCE (FT)

FIGURE A-15

STEWART AFB - LINE 26+50



STEWART AFB - LINE 27+00

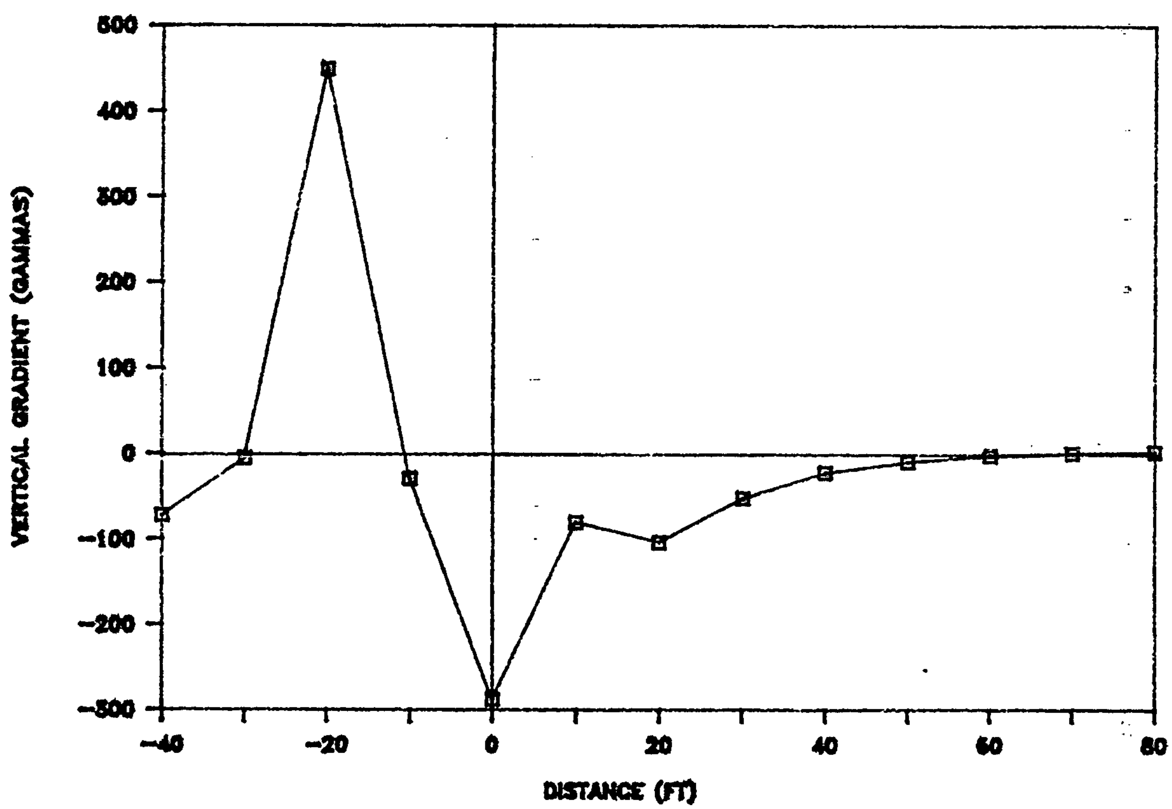
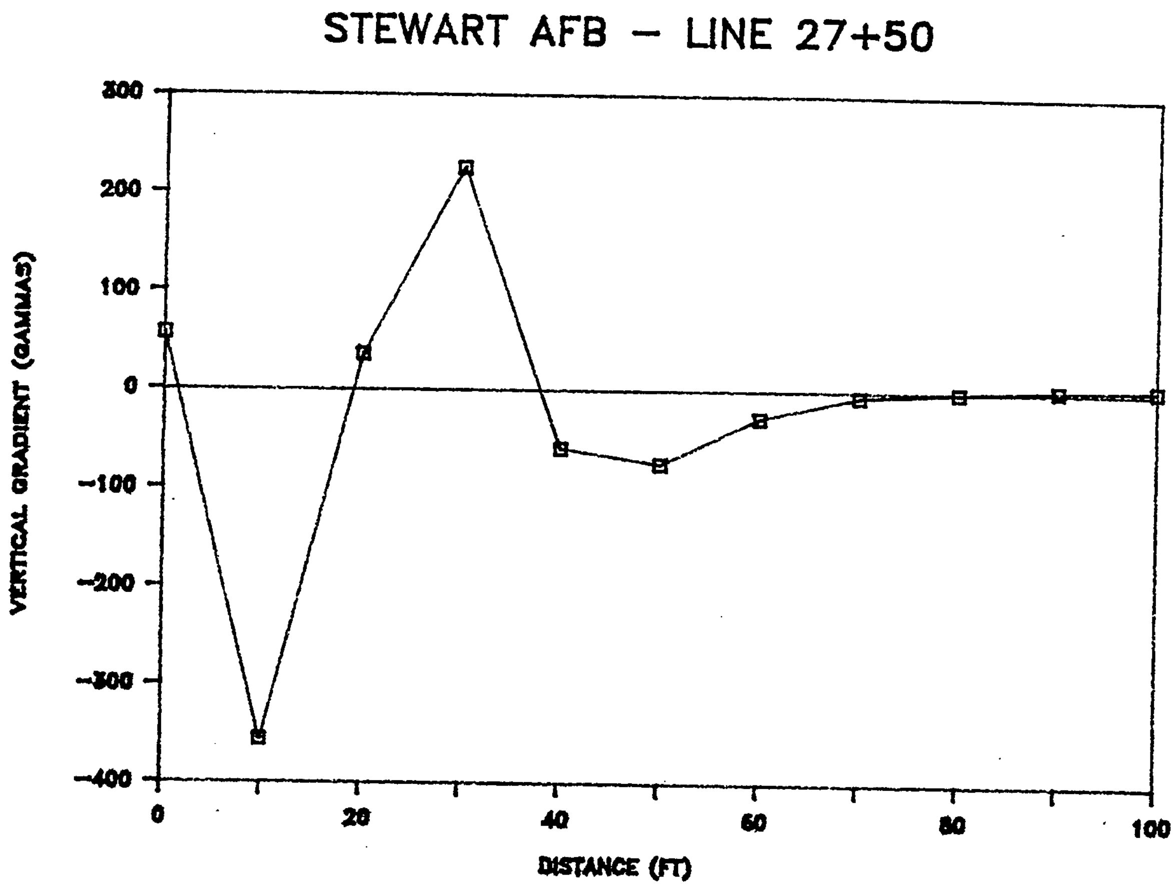


FIGURE A-16


STEWART AFB - LINE 27+50
VERTICAL GRADIENT (GAMMAS)
300
200
100
0
-100
-200
-300
-400
0
20
40
60
80
100
DISTANCE (FT)

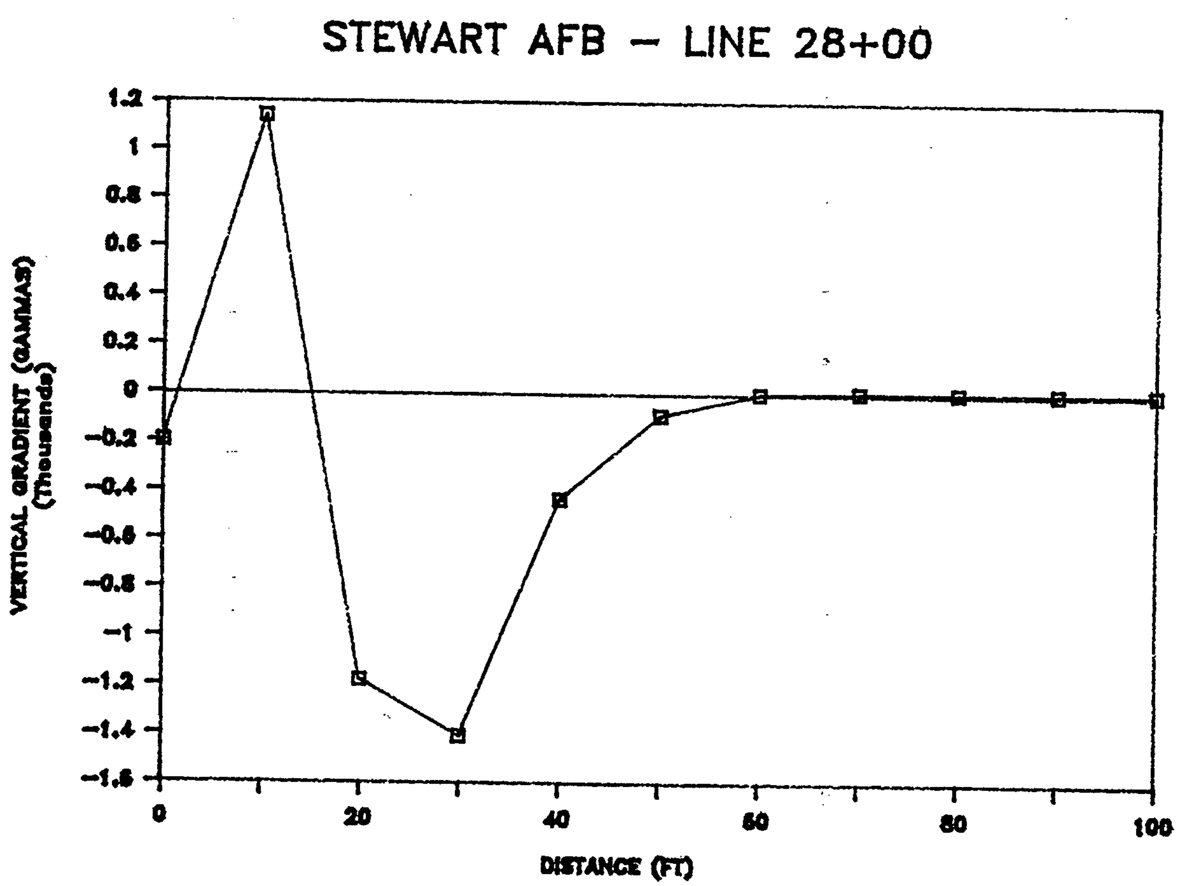
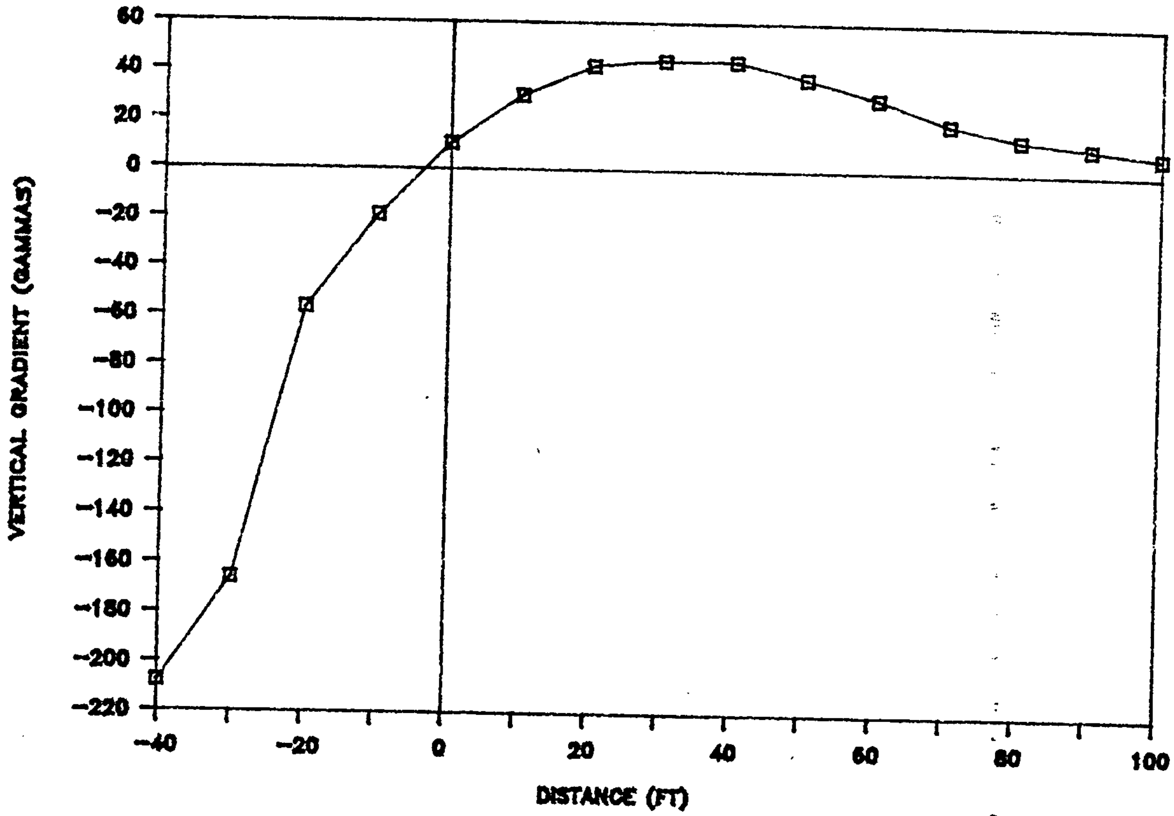

STEWART AFB - LINE 28+00
VERTICAL GRADIENT (GAMMAS)
(Thousands)
1.2
1
0.8
0.6
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
-1
-1.2
-1.4
-1.6
0
20
40
60
80
100
DISTANCE (FT)

FIGURE A-17

STEWART AFB — LINE 28+35



STEWART AFB — LINE 30+50

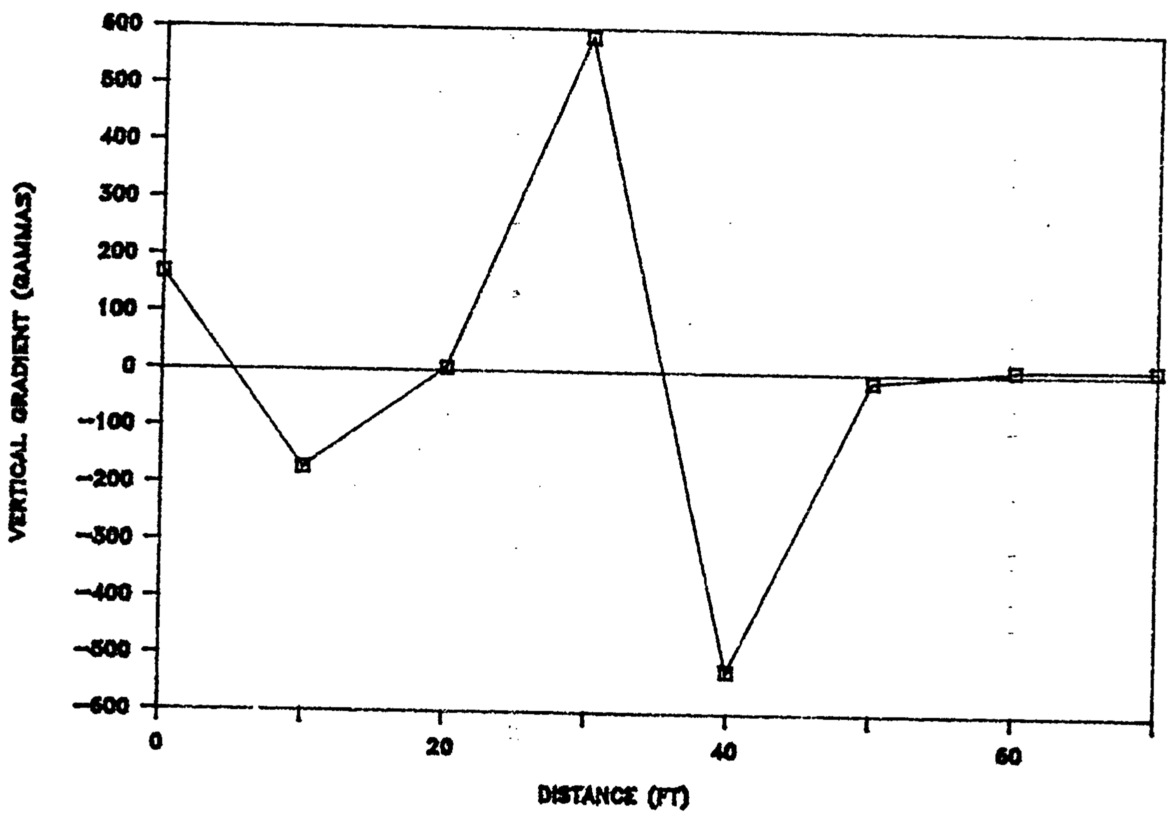


FIGURE A-18

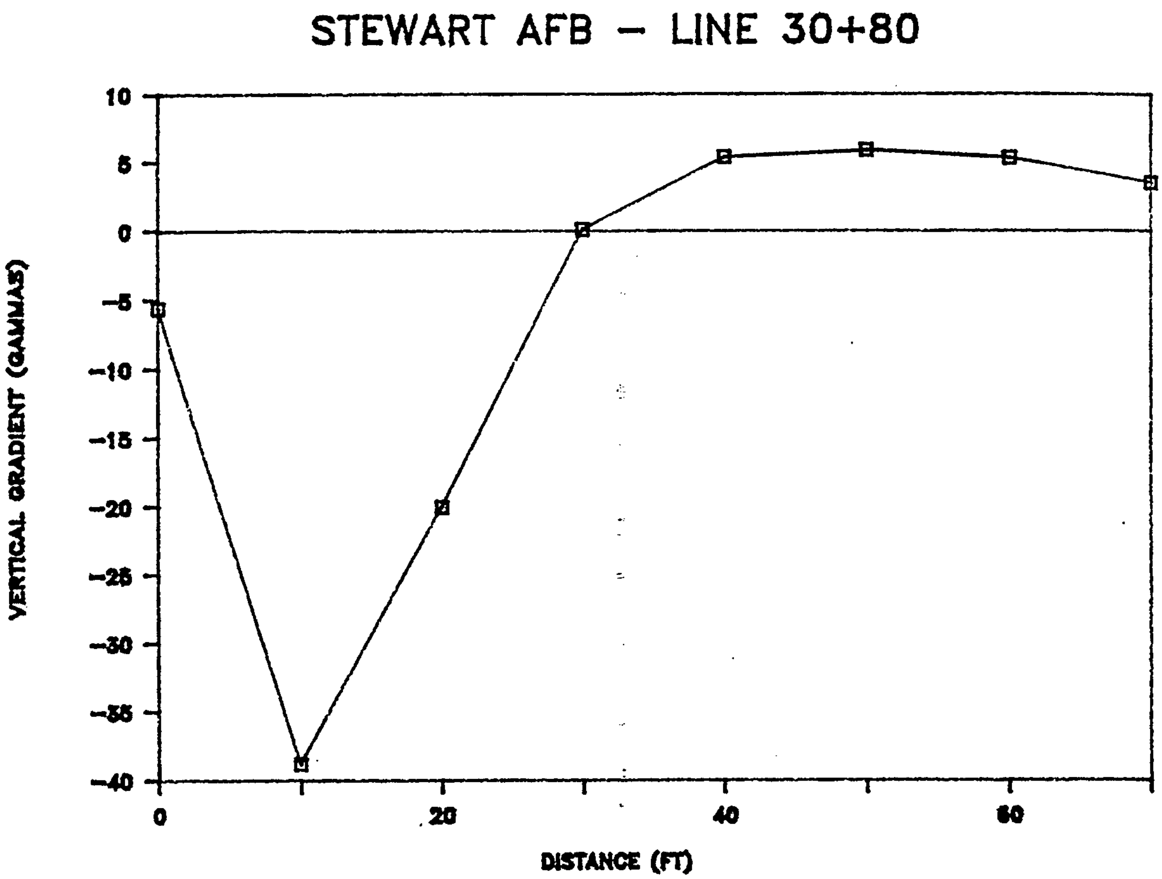

STEWART AFB – LINE 30+80
VERTICAL GRADIENT (GAMMAS)
10
5
0
-5
-10
-15
-20
-25
-30
-35
-40
0
20
40
60
DISTANCE (FT)

FIGURE A-19

APPENDIX A-2

TERRAIN CONDUCTIVITY MEASUREMENTS

APPENDIX A-2
TERRAIN CONDUCTIVITY MEASUREMENTS

INTRODUCTION

Terrain conductivity surveys, also referred to as EMI (electro-magnetic induction) surveys, have traditionally been used in mineral exploration for tracing conductive ore bodies (i.e., massive sulfides). More recently, conductivity surveys have been widely used for tracing conductive contaminant plumes in groundwater. Leachate from municipal landfills tends to be much more conductive than naturally occurring groundwater. Accordingly, the shape, extent, and relative impact of a plume can be studied with terrain conductivity surveys. Such surveys have also been successfully used in studying some organic contamination in soil and groundwater, since the conductivity of most organic chemicals is much lower then naturally occurring soils and groundwater.

Because the instrument never comes in contact with the ground, data acquisition is more rapid than conventional, galvanic, earth-resistivity surveys. However, quantification of conductivity data to yield a layered-earth solution is more difficult than with conventional earth resistivity.

INSTRUMENTATION

Two popular instruments used in terrain conductivity surveys are the EM-31 and EM-34-3, both manufactured by Geonics, Ltd., in Mississauga, Ontario. These instruments, which have proven to be rapid-reconnnaissance exploration tools, are used to assess the conductivity values for soil and rock materials.

Simply stated, the instrumentation, which consists of a transmitter and receiver, operates in the following manner. The transmitter is energized by an alternating current that produces a magnetic field, designated as the primary field, Hp. This artificial magnetic field induces small electric currents to flow in the earth which, in turn, produce a secondary magnetic field, Hs. This secondary magnetic field is complexly related to the transmitter/receiver separation and to the operating frequency of the transmitter, both of which are selected by the operator. The ratio of the secondary field to the primary field (Hs/Hp), under conditions that are commonly fulfilled in the field, is linearly proportional to the terrain conductivity. It is the ratio that is sensed by the receiver and converted into conductivity values in units of millimhos per meter. Although it is difficult to define the thicknesses and "true" conductivity of individual subsurface layers, the instrument measures very precisely the "apparent" conductivity of a volume of underlying earth materials. The apparent conductivity value is comprised of the sum of the contributions from each layer that is "sampled" by the transmitter-receiver array. The volume (and therefore the depth) of earth materials sampled increases with increasing separation between the transmitter and receiver. The separation is fixed with the EM-31 (3 meters), but is operator-selectable with the EM 34-3 at 10, 20, or 40 meters.

Each instrument can be used in either the horizontal dipole or vertical dipole mode. Selection of the operational dipole mode depends on the depth of

sampling desired, and the desired sensitivity of the instrument to materials at various depths, relative to the transmitter-receiver coil separation. Table A-1 shows the relationship of effective depth of exploration.

INTERPRETATION

The relative response of the instrument to materials at various depths can be estimated by examining Figure A-20, which shows a comparison of the relative responses for vertical and horizontal dipoles. The vertical axis describes the relative contribution to the secondary magnetic field, arising from a thin layer at a given depth, z. The horizontal axis shows how this response varies as a function of the ratio (z/s), where "z" is the depth of the thin layer described previously and "s" is the transmitter/receiver separation.

Figure A-20 demonstrates that in the vertical dipole mode, the contribution to the secondary magnetic field from near-surface materials is very small, but reaches a maximum at a depth "z" of approximately 0.4*s. The contribution is significant, although diminished, at a depth of 1.5*s. This depth represents the effective depth of exploration in the vertical dipole mode (Table A-1).

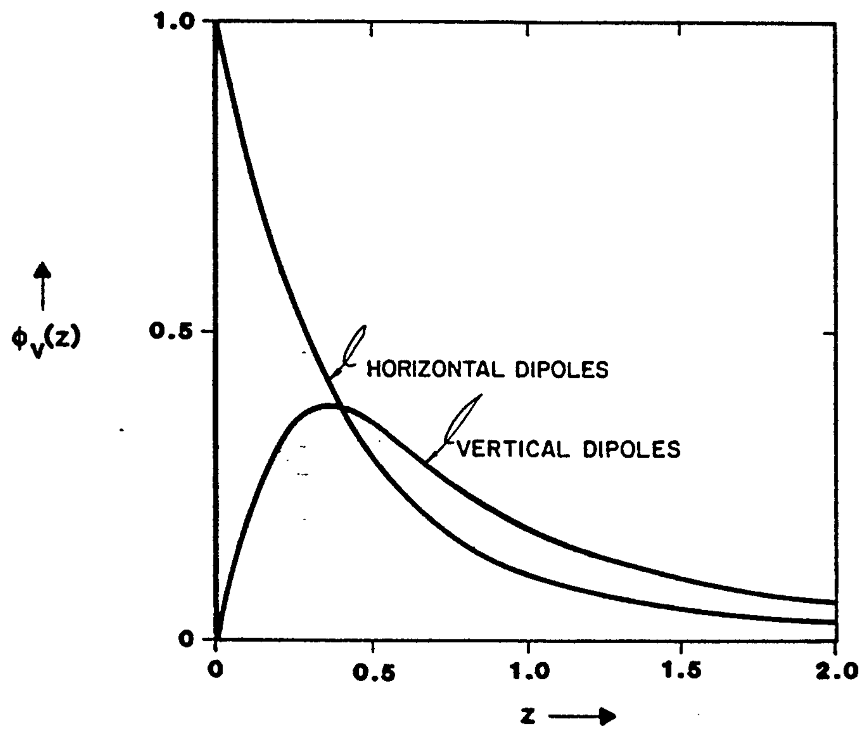
In the horizontal dipole mode, the contribution to the secondary magnetic field, arising from near-surface materials, is a maximum and decreases with increased depth. The contribution is also significant at a depth of about 0.75*s. This depth represents the effective depth of exploration in the horizontal dipole mode (Table A-1).

The terrain conductivity data acquired during the present study are presented in Figure A-21. The reader is referred to the main text for a brief discussion of these data.

TABLE A-1

TERRAIN CONDUCTIVITY MEASUREMENTS
EFFECTIVE DEPTH OF EXPLORATION

Instrument	Coil Separation	Vertical Dipole	Horizontal Dipole
EM 31	3m	4.5m	2.25m
EM 34-3	10m	15m	7.5m
	20m	30m	15m
	40m	60m	30m



Note: "$\phi_V(z)$" is the relative contribution to the secondary magnetic field intensity from material in a thin layer (dz) located at (normalized) depth "z".

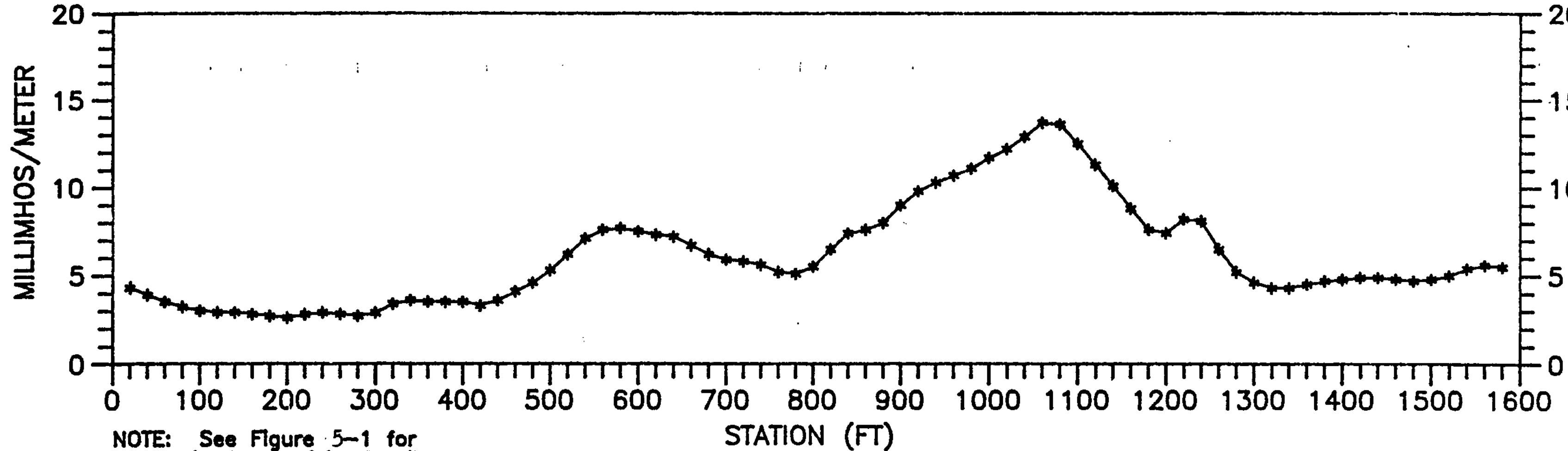
"z" is the depth of the thin layer (dz) divided by the intercoil spacing between transmitter and receiver.

TERRAIN CONDUCTIVITY SURVEY

COMPARISON OF RELATIVE RESPONSES FOR VERTICAL AND HORIZONTAL DIPOLES

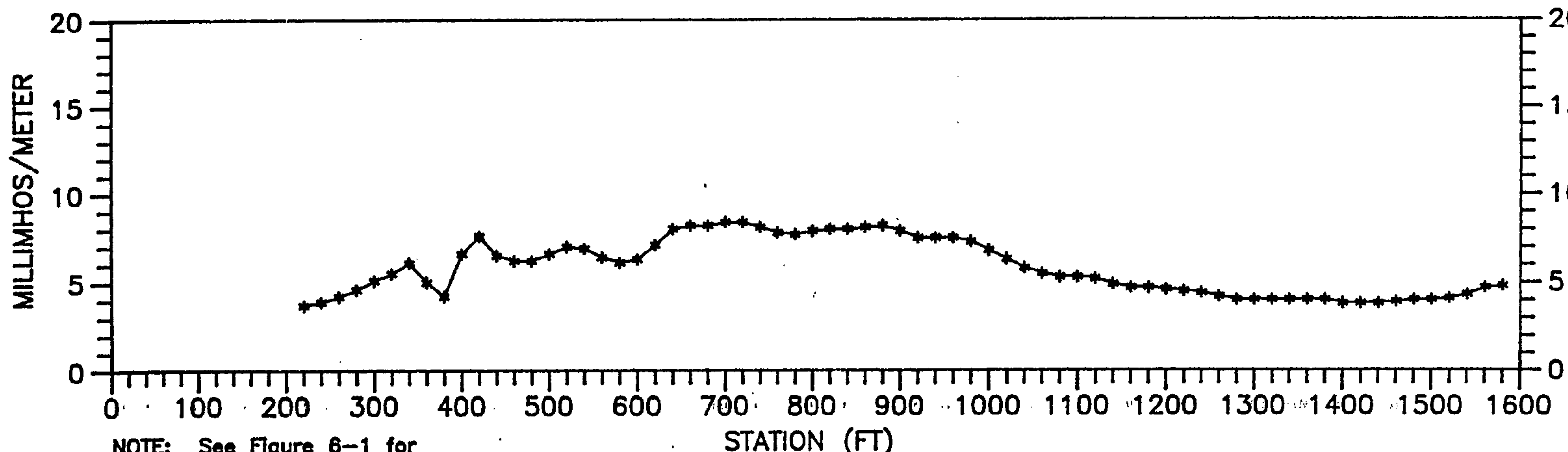
FIGURE A-20

TERRAIN CONDUCTIVITY PROFILE — LINE 1
STEWART AIR FORCE BASE



NOTE: See Figure 5-1 for Terrain Conductivity Profile orientation.

TERRAIN CONDUCTIVITY PROFILE — LINE 2
STEWART AIR FORCE BASE



NOTE: See Figure 6-1 for Terrain Conductivity Profile orientation.

FIGURE A-21

TABLE 7-3
WATER LEVEL OBSERVATIONS

STEWART ANGB, NEW YORK

LOCATION	CASING ELEVATION (FT)	8/11/87 ELEVATION (FT)	8/14/87 ELEVATION (FT)	9/2/87 ELEVATION (FT)	9/14/87 ELEVATION (FT)	1/18/89 ELEVATION (FT)
JMW-101	440.21	429.63	408.77[3]	429	431.83	428.55
JMW-107	367.43	357.18	356.88	356.7	359.0	361.67
JMW-108	370.85	362.35	362.15	362.27	362.14	366.99
JMW-109	374.45	364.4	364.33	366.09	369.48	669.80
JTB-100A	436.6	--	--[1]	405.02	404.7	405.14
JTB-100B	436.6	--	422.6[2]	405.15	404.32	405.82
JTB-101A	440.15	406.55	403.54	407.34	406.41	407.84
JTB-101B	440.15	406.59	403.54	407.35	406.45	407.88
JTB-102A	430.36	--	392.68	393.29	393.35	394.02
JTB-102B	430.36	--	395.17	393.18	396.77	397.49
JTB-102C	430.36	--	416.01	416.18	417.4	417.71
JTB-103A	435.48	--	420.63[2]	404.79	403.86	413.18[3]
JTB-103B	435.48	--	420.12[2]	404.95	403.95	407.68
JTB-104A	437.95	--	413.82	414.19	414.83	417.45
JTB-104B	437.95	--	414.06	414.53	415.15	418.34
JTB-104C	437.95	--	419.88	420.55	424.06	425.47
JTB-105A	394.57	376.63	376.36	376.64	376.25	377.95
JTB-105B	394.57	377.3	377.12	378.98	377.25	378.72
JTB-105C	394.57	280.96	380.66	380.26	382.05	382.59
JTB-106A	389.95	371.32	371.24	371.76	371.39	373.15
JTB-106B	389.95	371.68	371.75	372.1	371.77	373.31
JTB-107A	367.99	356.54	356.37	356.3	357.92	360.96
JTB-107B	367.99	356.54	356.37	--	358.39	361.12
JTB-108A	370.25	360.73	360.58	360.81	360.68	364.92
JTB-108B	370.25	360.45	360.17	360.72	360.49	364.81
JTB-109A	374.01	364.19	364.08	365.91	368.81	369.28
JTB-109B	374.01	364.19	364.05	365.77	369.48	369.82
JTB-110A	364.22	346.31	346.18	346.36	346.85	352.90
JTB-110B	364.22	346.19	346.17	346.26	346.75	352.85

[1] Depth below top of casing.
[2] Not installed by this date.
[3] May be an anomalous measurement.

APPENDIX B-1

SOIL BORING LOGS (INCLUDING PIEZOMETER AND MONITORING WELL INSTALLATION DIAGRAMS)

INSTALLATION RESTORATION PROGRAM

CLIENT STEWART AIR NATIONAL GUARD BASE			BORING NO. JTB-10
			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/13/87	COMPLTD. 8/14/87
METHOD Spun casing	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 433.93	SOIL DRILLED 45.6'	ROCK DRILLED 10'	FT BELOW GROUND 55.6'
LOGGED BY J. Urquhart	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	RECOVERY	SOIL/ROCK DESCRIPTION		SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN				N
0	Bkg	S-1	1.3	Silty Sand Topsoil & Ablation Till	Brown silty fine sand & topsoil, organics, gravel fill material, dry, loose to moderate dense.	SM	16	28	27	30	55
5		S-2	1.4	Sandy Silt Basal Till	Brownish grey fine sandy silt with some gravel, widely graded, moist, very dense basal till.	ML	24	50	35	100	85
10		S-3	1.2		Grey fine sandy silt with trace gravel, widely graded, moist, dense to very dense basal till.	ML	37	70	47	60	117
15		S-4	0		Grey fine sandy silt with little to some gravel, widely graded, moist, very dense, basal till.	ML	24	100/.3			100/.3
20		S-5	0			ML	100/.1				100/.1
25		S-6	0		Grey fine to medium sandy silt with little to some shaley gravel, widely graded, moist, very dense basal till.	ML	100/.2				100/.2
30		S-7	1.2			ML	27	30	100/.3		100/.3
35		S-8	1.1			ML	2	28	39	100/.3	67
40											

✱ U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM			BORING NO. JTB-100
CLIENT STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/13/87	COMPLTD. 8/14/87
METHOD Spun casing	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 433.93	SOIL DRILLED 45.6'	ROCK DRILLED 10'	FT BELOW GROUND 55.6
LOGGED BY J. Urquhart	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN N	WELL DATA	EL. (FT)
40	Bkg	S-9						Sandy Silt	Grey fine sandy silt with little clay, trace gravel. Clay structure has thin laminations. Widely graded, moist, cohesive medium dense to dense.		ML	24 47 47 60 94		
								45.6'						
45		S-10				·2		Shale	Black, dark grey extremely weathered shale, Fe staining on fractured surfaces, thinly bedded.			84 100/.1		
50								Roller bit 45.6' to 55.6'						
55									B.O.B. 55.6'					
60														

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-101			
CLIENT - STEWART AIR NATIONAL GUARD BASE		**PROJECT NO.** 5139-01	
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		**DATE STARTED** 8-4-87	**COMPLTD.** 8-7-87
METHOD HSA/Spin casing	**CASING SIZE** 4" I.D.	**HNU TIP** 10.6	**PROTECTION LEVEL** B C D
GROUND EL 437.64	**SOIL DRILLED** 37.7	**ROCK DRILLED** 8.8	**FT BELOW GROUND** 46.5'
LOGGED BY S. Pinette	**CHECKED BY** FFB	**DATE** 11-10-87	Page 1 of 2

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	RECOVERY	SOIL/ROCK DESCRIPTION		SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD %
0	Bkg	S-1	0.5	Fine Sand Fill & Ablation Till	Light yellowish brown with grass roots, loose dry uniform; over very fine & with little coarse sand, trace gravel	SW	8 60
5		S-2	1.6	6' Fine Sand Basal Till	Olive brown, silty, trace clay & coarse sand & gravel, very dense, dry, gap graded	SM	8 31 65 70
10		S-3	1.3		Olive gray with fine to medium gravel, fine to coarse sand, some clay, moderately plastic, very firm, moist		– 50 44 63
15		S-4	1.4				48 82 90 100/0.2
20		S-5	1.3		As above with more fine sand		38 63 80 –
25		S-6	0.7				63 100/0.4
30		S-7	0.4		As above with little clay, low plasticity, moist, very hard	SM	100/0.2
35		S-8	0		As above but mixed with weathered shale fragments		100/0.2
		R-1	77%	37.7' Shale	Top of Rock. Medium gray, well cleaved, cleavage surfaces stained with oxidation, cleavage at 45°		0%
40							

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

CLIENT : STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/4/87	COMPLTD. 8/7/87
METHOD HSA/Spun casing	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 437.64	SOIL DRILLED 37.7'	ROCK DRILLED 8.8'	FT BELOW GROUND 46.5
LOGGED BY S. Pinette	CHECKED BY FFB	DATE 11-10-87	Page 2 of 2

BORING NO. JTB-101

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CIP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD % 20 40 60 80	WELL DATA	EL. (FT)
40		R-1						Shale Medium gray, well cleaned @ 45°, staining on cleavage surfaces, very broken;					
45		R-2				100%		Sandstone interbedded with shale at 42.6 to 43.3					
								B.O.B. @ 46.5'					
50													

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM			BORING NO. JMW-101
CLIENT - STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8-7-87	COMPLTD. 8-10-87
METHOD HSA	CASING SIZE 4.25" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 437.83	SOIL DRILLED 32.5	ROCK DRILLED 0.2	FT BELOW GROUND 32.7
LOGGED BY T. Longley	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
0	Bkg							See log of JTB-101 for soil/rock description					
5													
10													
15													
20													
25													
30													
		S-1		Y				Analytical Sample JMW1013101					
								B.O.B. 32.7					

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO.	JTB-102
PROJECT NO.	5139-01
CLIENT	STEWART AIR NATIONAL GUARD BASE
CONTRACTOR	EMPIRE SOILS INVESTIGATIONS
DATE STARTED	8/11/87
COMPLTD.	8/13/87
METHOD	Spun Casing
CASING SIZE	4" I.D.
HNU TIP	10.6
PROTECTION LEVEL	B C D
GROUND EL	427.62
SOIL DRILLED	51.6'
ROCK DRILLED	10'
FT BELOW GROUND	61.6'
LOGGED BY	J. Urquhart
CHECKED BY	FFB
DATE	11-10-87

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)		SOIL/ROCK DESCRIPTION	GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	N	WELL DATA	EL. (FT)
	Bkg	S-1				1.5		Sandy Silt Topsoil & Ablation Till	Brown with organics, loose, over brownish grey fine sandy silt, trace gravel, trace coarse sand, widely graded, dry loose		SM	7 12 17 19	29		
		S-2		Y		1.6		Silt Basal Till	Brownish grey silt with trace fine sand, some gravel, widely graded, slightly moist, very dense basal till		ML	30 59 53 70	112		
									Analytical Sample JTB1021201						
		S-3				0.8		Silt Basal Till	Dark grey silt with trace fine sand some gravel, widely graded, moist, very dense, basal till		ML	36 56 65 51	121		
		S-4				1.2		Gravelly Silt Basal Till	Dark grey silt with trace fine sand much gravel, moist, very dense, basal till		ML	22 55 64 100	119		
		S-5				1.1			Dark grey silt with trace fine sand much gravel. Isolated light grey clay lenses, moist, cohesive, plastic, very dense, basal till		ML	59 70 81 100	151		
		S-6				0.5		Silt	Brownish grey silt with trace fine sand, little clay, some gravel. Moist very dense, basal till		ML	43 55 68 100	123		

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-102			
CLIENT STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED	COMPLTD. 8/13/87
METHOD Spun casing	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 427.62	SOIL DRILLED 51.6	ROCK DRILLED 10'	FT BELOW GROUND 61.6'
LOGGED BY J. Urquhart	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	N	WELL DATA	EL. (FT)
40	Bkg							Gravelly Silt (Till)	Brownish grey silt, trace clay, trace fine sand, much gravel, widely graded moist, very dense, basal till						
		S-7	N			0.6					ML	45 55 50 80	105		
45															
		S-8	N			0.4					ML	39 100/.2	1		
50								51.6' Shale	Dark grey shale, highly weathered, friable, thinly bedded.						
		S-9	N			0.5						80 100/.1	1		
55									Roller bit 51.6' to 61.6'						
60															
								B.O.B. 61.6'							
65															

* U= THIN WALL S= SPLIT SPOON R= ROCK

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-103			
CLIENT STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/12/87	COMPLTD. 8/14/87
METHOD Spin casing/coring	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 432.54	SOIL DRILLED 41'	ROCK DRILLED 10'	FT BELOW GROUND 51.4'
LOGGED BY T. Longley	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD %	N
0	Bkg	S-1				1.0	Bkg	Sandy Silt Over Silty Sand Fill & Ablation Till	Tan fine sandy silt, trace coarse sand, trace gravel, dry, loose, over tan gravelly, silty sand	ML/ SM	8 33 50/0.0	
5		S-2		Y		1.7	Bkg	Silt & Sand Basal Till	Brown, trace gravel, trace clay, well graded, ~~damp~~, non-plastic, very dense, massive structure. Analytical Sample JTB1030501	SM	36 30 31 37	61
10		S-3				0.8	Bkg		While tri-coning, water return turned grey at ~ 13'. .		26 22 35 75	57
15		S-4				0.8	Bkg	Sandy Silt	Gray, trace fine gravel, non to slightly plastic, evenly graded, dense, damp	ML	11 21 42 67	63
20		S-5				0.6	Bkg		As above but appears like weathered bedrock, very dense, damp, cemented till, trace gravel is all gray shale		122 76	
25		S-6				0.7	Bkg		As above but with little sand		32 89 100/0.4	
30		S-7				1.0	Bkg		Gray, trace coarse sand, trace gravel, trace clay very well sorted, very dense, non-plastic, damp		13 39 83 100/.3	
35		S-8				0.8	Bkg		As above, but around a ½" lense of very well sorted fine sand		33 57 100/.3	
40		S-9				0.3	Bkg	Silty Sand	Yellowish-brown with little coarse shale fragments, damp	SM	29 47 100/.1	

GRAPHICAL LITHOLOGY | WELL DATA | EL. (FT)

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-103			
CLIENT - STEWART AIR NATIONAL GUARD BASE		PROJECT NO. 5139-01	
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/12/87	COMPLTD. 8/14/87
METHOD Spin casing-coring	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 432.54	SOIL DRILLED 40'	ROCK DRILLED 11.4'	FT BELOW GROUND 51.4'
LOGGED BY T. Longley	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)		SOIL/ROCK DESCRIPTION	GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	WELL DATA	EL. (FT)
40									Extremely weathered bedrock, water return is brown		SM			
45		S-10				.05	Bkg	Sand & Silt (Weathered Rock)	Brown, trace gravel, very dense, wet; few distinct brown mottles; weathered rock			100/.1		
		S-11				0.1	Bkg		Black & brown w/little clay, moist, lensoid, very hard			100/.3		
		S-12				0.0	Bkg							
50														
								B.O.B. @ 51.4' Solid Rock						
55														

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-104			
CLIENT STEWART AIR NATIONAL GUARD BASE			**PROJECT NO.** 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		**DATE STARTED** 8/11/87	**COMPLTD.** 8/12/87
METHOD Spin casing-coring	**CASING SIZE** 4" I.D.	**HNU TIP** 10.6	**PROTECTION LEVEL** B C D
GROUND EL 435.54	**SOIL DRILLED** 27'	**ROCK DRILLED** 10'	**FT BELOW GROUND** 37.0
LOGGED BY T. Longley	**CHECKED BY** FFB	**DATE** 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	RECOVERY	SOIL/ROCK DESCRIPTION		SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD %	N
0	Bkg	S-1	1.5	Silty Sand Topsoil & Ablation Till	Brown w/roots, moist, loose, over tan silty fine sand, trace gravel, trace coarse sand, dry, loose - hit rock @ 1'	SM	16 60 74 49	134
5		S-2	0.5		Poor recovery of wash-angular coarse sand, gravel - rock stuck in drive shoe		28 23 18 15	41
10		S-3	1.4	Sandy Silt Basal Till	Brown, trace to little coarse sand, trace gravel, widely graded, non-plastic, damp, massive, very dense till	ML	22 36 22 40	58
15		S-4	0.9	Fine Sandy Silt	Gray, trace to little coarse sand, trace gravel, widely graded, non-plastic, hard, damp, massive till	ML	22 25 17 17	42
20		S-5	0.7				34 47 24 23	71
24.5				24.5'	Bedrock			
25		S-6	0.8	Shale & Silty Sand (Weathered Bedrock) Shale	Shale is dark gray to black, gravelly in size, highly weathered w/little brown silt. This is over dull yellowish brown silty sand, damp, very dense.		98 100/.3	
30		R-1	54%		Black to grayish black, very broken w/numerous & randomly oriented joints & fractures, crude bedding @ 55° to core axis.		0%	
		R-2	95%				0%	
35		R-3	83%		Roller bit 34.3' to 37'			
37				B.O.B. @ 37'				
40								

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-105	**PROJECT NO.** 5139-01		
CLIENT - STEWART AIR NATIONAL GUARD BASE			
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/7/87	COMPLTD. 8/10/87
METHOD Spin casing-coring	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 392.69	SOIL DRILLED	ROCK DRILLED	FT BELOW GROUND 38.0
LOGGED BY T. Longley & J. Urquhart	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	RECOVERY	SOIL/ROCK DESCRIPTION	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN N
0	Bkg	S-1	0.9	Sandy Silt — Brown to tan fine sandy silt with some gravel and roots, dry, loose, subrounded gravel. Cobbles. Trace of fill over ablation till	SM-ML	13 100/0.3
5		S-2	1.2	Silty Sand & Gravel — Tan gravelly silty sand, mottled, firm to dense, moist, massive structure, subrounded gravel. Analytical Sample JTB1050701 (GC: Y)	SM-GM	10 15 12 50/0.2
10		S-3	1.6	Yellow to olive silty sand and fine gravel, trace clay, dense to very dense, slightly moist	SM-GM	25 22 29 21 51
15		S-4	0.5	Basal Till. Color change to grayish black		48 50/0.2
20		R-1, R-2		Grey-black gravel, some silt, very dense, slightly moist (weathered shale fragments and till)	SM-GM	
25		R-3		25.5' Probably Top of Rock. Roller Bit to 37.0'		
35		R-4		B.O.B. @ 38.0'		
40						

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

*Cored cobbles: not boxed

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-106			
CLIENT STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 7/30/87	COMPLTD. 8/4/87
METHOD HSA/Rock core	CASING SIZE 4.25"	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 386.97	SOIL DRILLED 19.5'	ROCK DRILLED 10.5'	FT BELOW GROUND 30.0
LOGGED BY S. Pinette	CHECKED BY FFB	DATE 11-10-87	Page 1 of 1

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	CLP	RECOVERY HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD %
0	Bkg	S-1		1.3	Sandy Silt Topsoil over Ablation Till	Grayish orange, dry, loose, little gravel	SM	7 11 15
5		S-2	Y	1.3	Gravelly Sand	Grayish orange, dry, medium dense Analytical Sample JTB1060501	SW	29 31 53 100/0
10		S-3		1.6	Sand	Grayish orange w/silt laminate, trace gravel moist, mottled, medium dense.	ML	11 18 18 13
15		S-4		1.3	Sandy Silt Silty Sand Basal Till	Olive brown, little clay, moist, medium stiff/over silty fine sand, little gravel (shale), trace clay, dry, medium dense	ML	5 15 23 38
		S-5		1.1	Sandy Clayey Silt 19.5'-Bedrock-	Olive brown, some shale fragments, wet, very stiff to hard	ML	31 60 100/0.1
20		R-1		63%	Shale	Medium gray, closely cleaved with oxide staining on cleavage surfaces, few calcite inclusions, subtle bedding parallel to cleavage at approx. 45°		
25		R-2		100%				
		R-3		100%				
30					B.O.B. @ 30.0'			

Additional column headings: GRAPHICAL LITHOLOGY, WELL DATA, EL. (FT), SAMPLE, GC; RQD scale 20 40 60 80 100. Well data: 4

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-107

CLIENT : STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 7/30/87	COMPLTD. 8/3/87
METHOD Spin casing-coring	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 364.79	SOIL DRILLED 10.0'	ROCK DRILLED 9.4'	FT BELOW GROUND 19.4
LOGGED BY L. Healey	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	N	WELL DATA	EL. (FT)
0	Bkg	S-1				0.4		Silty Sand (Colluvium)	Tan silty sand, trace medium gravel & roots, loose, brown moist		SM	2 7 9 15	16		
5		S-2				1.4		Fine Sand Ablation Till 9.4'	Brown fine sand, little silt, trace medium - coarse gravel, moist, medium dense, mottled, slightly stratified		SM				
		S-3				0.1		Silty Sand & Shale	Gray silty sand, weathered medium-coarse shale gravel, moist cohesive (Top of rock 9.4')		SM-GM	6 9 24 32	33		
10		R-1				25%						0% RQD			
15		R-2				66%			Black to grayish black shale, highly weathered FeO staining, clay seams and voids			0% RQD			
		R-3				35%						0% RQD			
20								B.O.B. @ 19.4'							
25															
30															
35															
40															

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JMW-107			
CLIENT : STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 7/30/87	COMPLTD. 8/3/87
METHOD 4.25" HSA	CASING SIZE N/A	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 364.14	SOIL DRILLED * 21.0	ROCK DRILLED N	FT BELOW GROUND 9.5
LOGGED BY L. Healey	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CIP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN	N	WELL DATA	EL. (FT)
0	Bkg							See log of JTB-107 for soil/rock descriptions. Analytical sample JMW-107 0401 taken from 4.5-7.5'						
5			X	Y		25					13 21 18 22 / 15 21	40		
10								B.O.B. @ 9.5'						
								*Note: Moved borehole location 5 times before boulder-free location was found. 21' of soil drilled.						

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-108			
CLIENT STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/3/87	COMPLTD. 8/4/87
METHOD HSA/Coring	CASING SIZE 4.25" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 367.34	SOIL DRILLED 12.8'	ROCK DRILLED 10'	FT BELOW GROUND 22.8'
LOGGED BY T. Longley	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD %	N
0	Bkg	S-1	1.4	Bkg	Sandy Silt Topsoil Over Ablation Till	Dark brown to light brown w/few distinct mottles, damp, firm; vertical & horizontal; horizontal fractures w/blocky structure	ML	2 12 23 10	35
5'									
5		S-2	1.2	Bkg	Gravelly Silty Sand Basal Till	Tan & gray, widely graded, many distinct bright orange mottles, slightly plastic, moist, dense	SM	4 10 13 17	23
10		S-3	1.5	Bkg		As above but w/few, faint mottles Auger refusal at 12.8'	SM	10 10 14 20	24
					12.8' Bedrock				
15		R-1	42%		Shale	Blackish gray, extremely broken with prominent weathering & staining on cleavage surfaces. Cleavage surfaces are at 66° to core axis			
20		R-2	70%			Have 1.5' slough in hole			
25					B.O.B. @ 22.8'				

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. MW-108

CLIENT: STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR: EMPIRE SOILS INVESTIGATIONS		DATE STARTED	COMPLTD.
METHOD: HSA	CASING SIZE: 4.25" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL: 368.34	SOIL DRILLED: 12'	ROCK DRILLED: N.A.	FT BELOW GROUND: 12
LOGGED BY: T. Longley	CHECKED BY: FFB	DATE: 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION	GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD %	N	WELL DATA	EL. (FT)
0	Bkg	S-1				1.2	Bkg	Silty Sand Topsoil & Till — Brown, dry, loose, trace gravel, roots at top		ML	3 6 5 10	11		
5								Analytical Sample JMW1080701						
		S-2		Y		0.8		Silty Sand Till — Brown, trace to little gravel, moist to wet firm, well graded w/few distinct yellow mottles; S-2 filled VOA jar, S-3 filled remaining jars		SM	7 9 9 9	18		
10		S-3		Y		1.1					9 12 100/.3			
12								B.O.B. @ 12'						
15														

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-109			
CLIENT STEWART AIR NATIONAL GUARD BASE			PROJECT NO. 5139-01
CONTRACTOR EMPIRE SOILS INVESTIGATIONS		DATE STARTED 8/4/87	COMPLTD.
METHOD H.S.A./Spin casing	CASING SIZE 4" I.D.	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 371.72	SOIL DRILLED 10.4	ROCK DRILLED 9'	FT BELOW GROUND 19.4
LOGGED BY T. Longley	CHECKED BY FFB	DATE 11-10-87	

Bkg = Background

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN N	WELL DATA	EL. (FT)
	Bkg	S-1				1.9	Bkg	Silty Sand over Sandy Silt Topsoil Over Ablation Till	Dark brown to tan, trace gravel, dry loose; topsoil over blocky structure w/oxidation staining on ped faces		SM/ML	3 6 11 12 17		
5		S-2				.8	Bkg	Silty Sand Till	Yellowish brown, trace to some gravel, very dense, dry to damp, widely graded, massive structure, distinct mottles, auger refusal at 6 - spin casing			24 32 100/.3		
10								10.4' Bedrock						
		R-1				16%		Shale	Gray, thinly laminated, medium hard, very broken much oxidation on fracture faces			0%	CAVE	
15		R-2				24%			Roller Bit 18.5 - 19.4			0%		
20								B.O.B. @ 19.4'						

* U= THIN WALL S= SPLIT SPOON R= ROCK

E.C. JORDAN CO.

INSTALLATION RESTORATION PROGRAM

BORING NO. JTB-110

CLIENT	STEWART AIR NATIONAL GUARD BASE		PROJECT NO. 5139-01
CONTRACTOR	EMPIRE SOILS INVESTIGATIONS	DATE STARTED 7/29/87	COMPLTD. 7/29/87
METHOD HSA	CASING SIZE 4¼"	HNU TIP 10.6	PROTECTION LEVEL B C D
GROUND EL 361.34	SOIL DRILLED 18.9'	ROCK DRILLED 7.3'	FT BELOW GROUND 26.2
LOGGED BY J. Urquhart	CHECKED BY FFB	DATE 11-10-87	

DEPTH (FT)	HNU AMB. AIR	SAMP NO. & TYPE NO.	SAMPLE	CLP	GC	RECOVERY	HNU HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION		GRAPHICAL LITHOLOGY	SOIL CLASS OR ROCK FRACTURES	BLOWS/6-IN or RQD % 20 40 60 80	N	WELL DATA	EL. (FT)
0	Bkg	S-1				1.6	Bkg	Sandy Silt	Gray brown, little to some gravel, dry, loose		ML	5 27 29 37	56		
5		S-2				.2	Bkg	Silty Fine Sand Till	Gray to brown, trace silt little gravel, loose to dense, dry		ML	9 11 17 14	28		
10		S-3				1.1	Bkg	Silty Sand Till	Dark gray, trace gravel, loose to dense, dry			6 6 5 7	11		
15		S-4				1.3	Bkg				SM	7 13 6 6	19		
								18.9'							
20		R-1				75%		Shale	Gray to blackish gray, thinly laminated, medium soft, broken to very broken, slight to moderate weathering with many fractures, cleavage is parallel to bedding @ approximately 70° to horizontal. Bottom ½ foot severely weathered						
25		R-2				79%									
								B.O.B. @ 26.2'							
30															

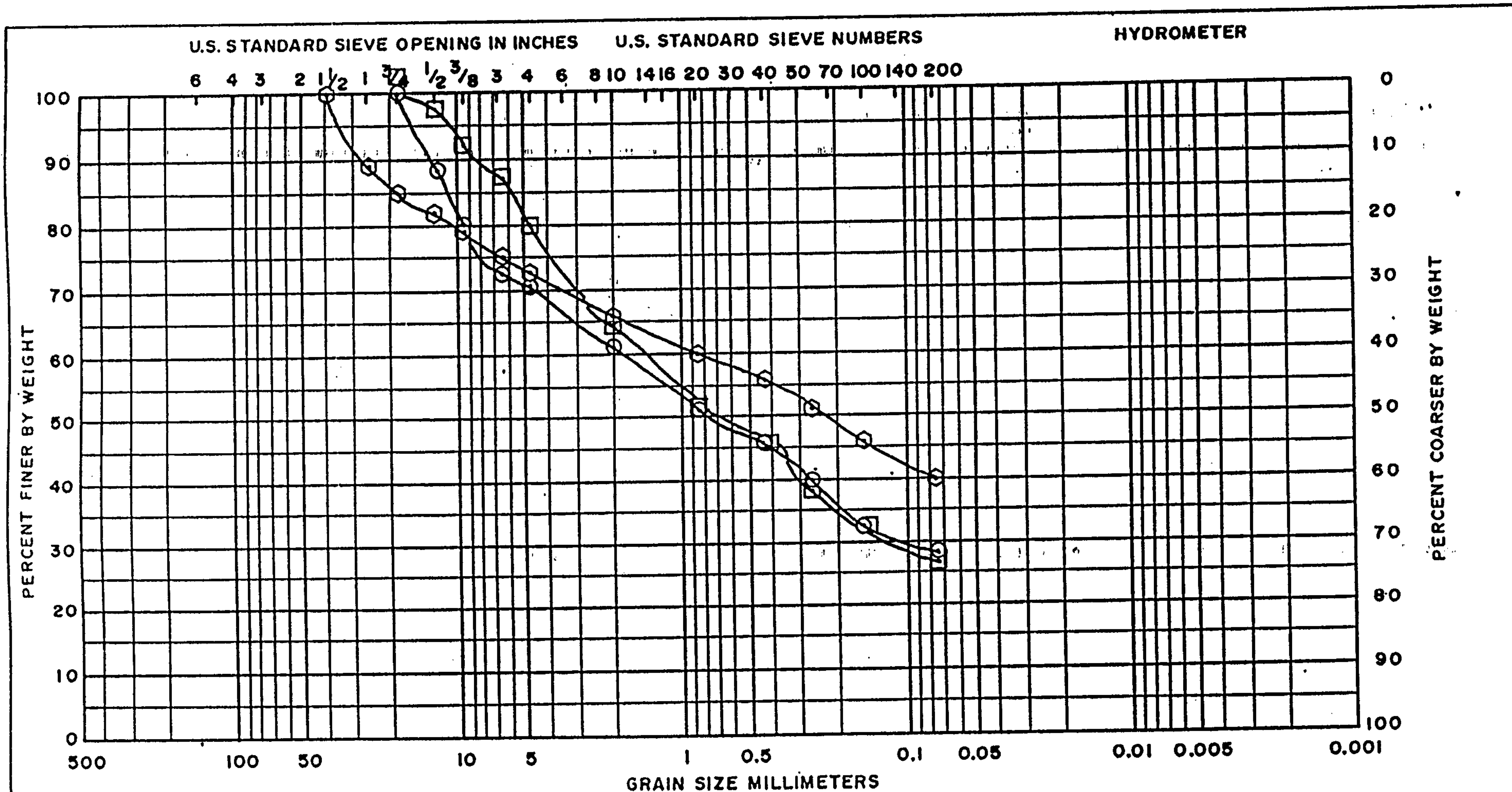
✱ U= THIN WALL S= SPLIT SPOON R= ROCK

APPENDIX C

LABORATORY DATA

APPENDIX C-1

GRAIN-SIZE DISTRIBUTION CURVES



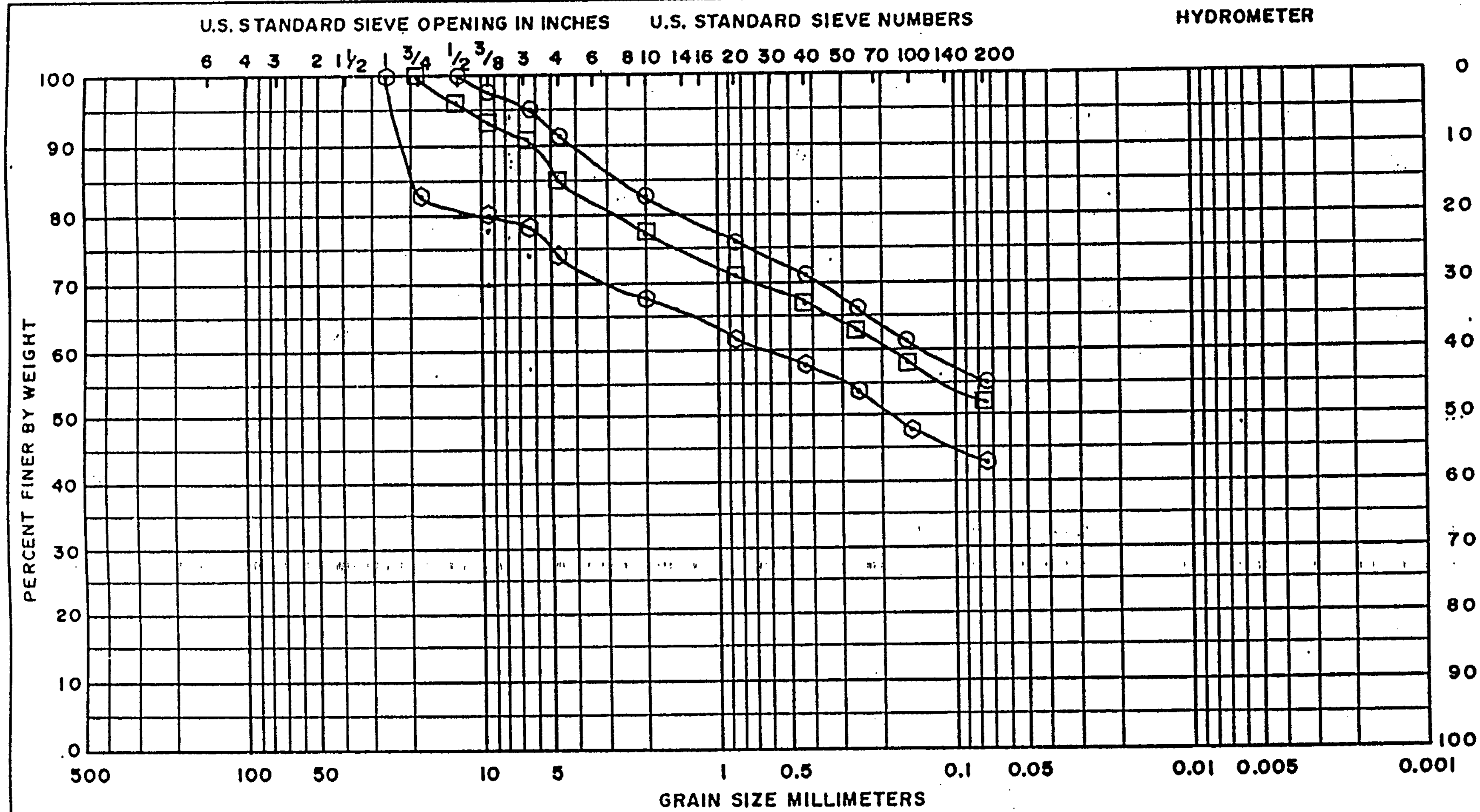
<table>
<tr><td rowspan="2">COBBLES</td><td colspan="2">GRAVEL</td><td colspan="3">SAND</td><td rowspan="2">SILT</td><td rowspan="2">CLAY</td></tr>
<tr><td>COARSE</td><td>FINE</td><td>COARSE</td><td>MEDIUM</td><td>FINE</td></tr>
</table>

SAMPLE NO.	ELEV. OR DEPTH		CLASSIFICATION	NAT W%	LL	PL	PI
MW 101	S·1	⊙	Silty SAND, some gravel, little Clay; fill	8.2%			
MW 109	S·1	⊙	Silty SAND, some gravel, little Clay, fill	12.9%			
MW 100	S·1	⊡	Silty SAND, some gravel, little gravel, fill	11.0%			

GRAIN SIZE DISTRIBUTION CURVES

STEWART A.N.G.

TESTED BY	CHECKED BY	PROJ. NO.
TS	RLR	5139.01
	DATE 9.10.87	



COBBLES	GRAVEL		SAND			SILT	CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE		

SAMPLE NO.	ELEV. OR DEPTH		CLASSIFICATION	NAT W%	LL	PL	PI
B100	5-3	⊙	Silty Sand, some clay, some gravel, till	8.0%			
B101	54	⊙	Silty Sand, some clay, some gravel, till	8.8%			
B102	56	⊡	Silty Sand, some clay, some gravel, till	10.6%			

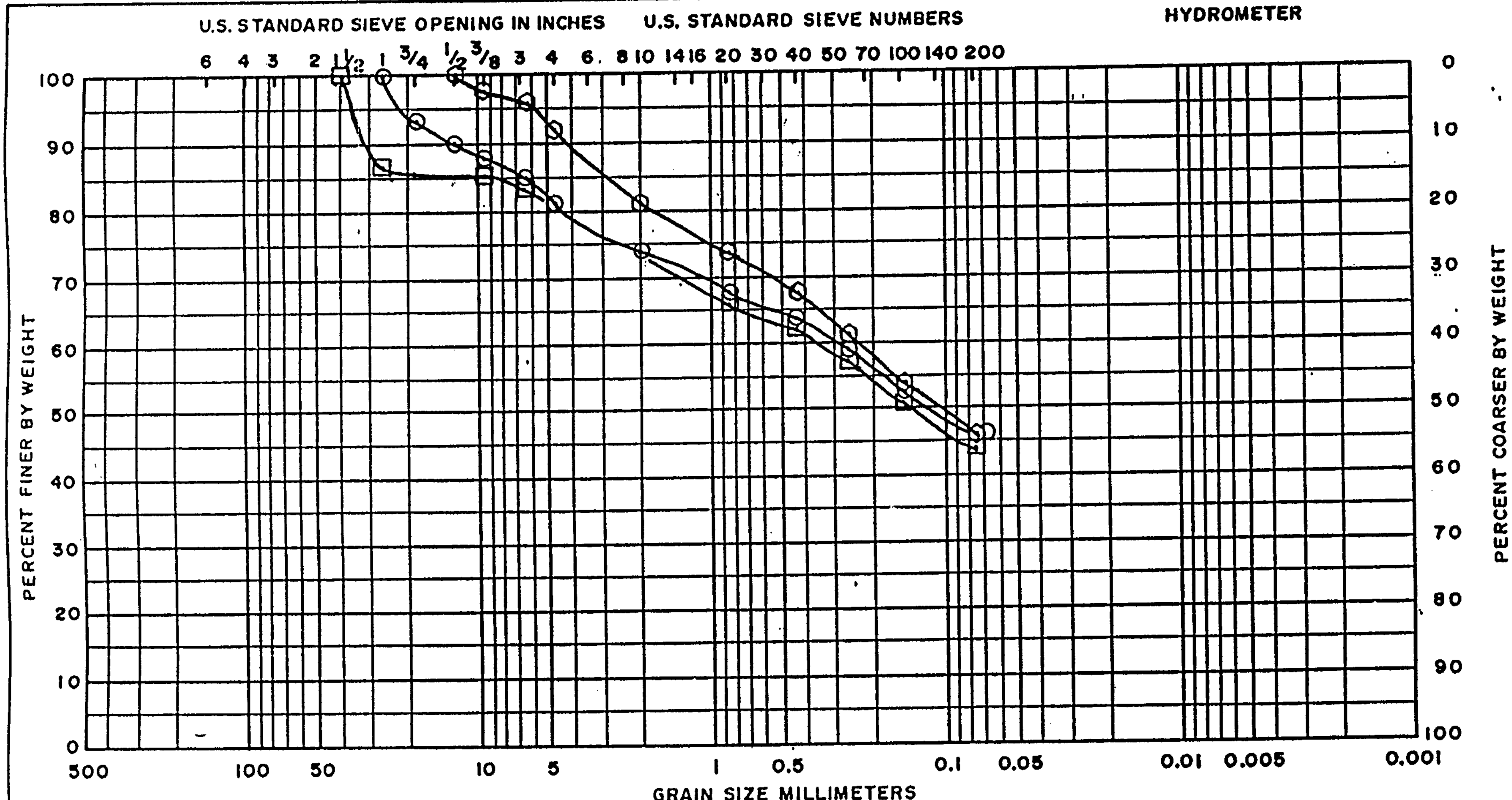
GRAIN SIZE DISTRIBUTION CURVES

STEWART A.N.G.

TESTED BY	CHECKED BY	PROJ NO.
TS	RLR	5139.01
	DATE 9.10.87	

JGA 003
1 APR 82

JORDAN GORRILL ASSOCIATES
GEOTECHNICAL CONSULTANTS



COBBLES	GRAVEL		SAND			SILT	CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE		

SAMPLE NO.	ELEV. OR DEPTH		CLASSIFICATION	NAT W%	LL	PL	PI
B103	52	⊙	Silty Sand, little clay, trace fine gravels	10.0%			
B103	57	⊙	Silty Sand, little clay, little fine gravels	8.1%			
B104	54	⊡	Silty Sand, little clay, little gravel	8.5%			

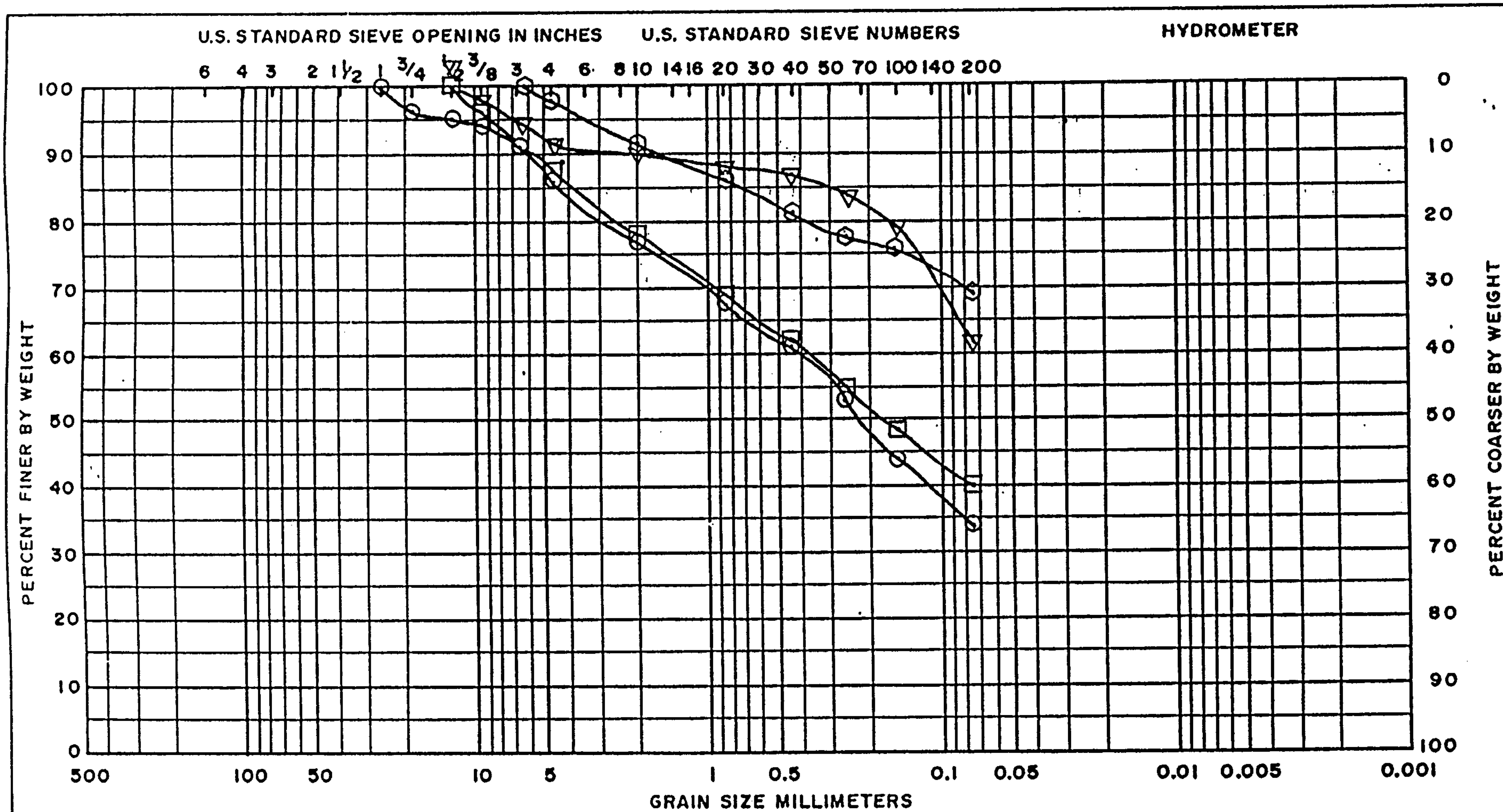
GRAIN SIZE DISTRIBUTION CURVES

STEWART A.N.G.

TESTED BY	CHECKED BY	PROJ NO.
TS	RR	5139.01
	DATE 9.10.87	

JGA 003

J[redacted] G[redacted] ASS[redacted]ES GEOTECHNICAL CONSULTANTS



COBBLES	GRAVEL		SAND			SILT	CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE		

SAMPLE NO.	ELEV. OR DEPTH		CLASSIFICATION	NAT W%	LL	PL	PI
B105	S5	⊙	Silt and Sand, stratified	13.6%			
B106	S3	⊙	Sand, some silt, little gravel, trace clay	12.2%			
B106	S5	⊡	Silty Sand, some clay, little gravel	13.2%			
B107	S2	▽		17.2%			

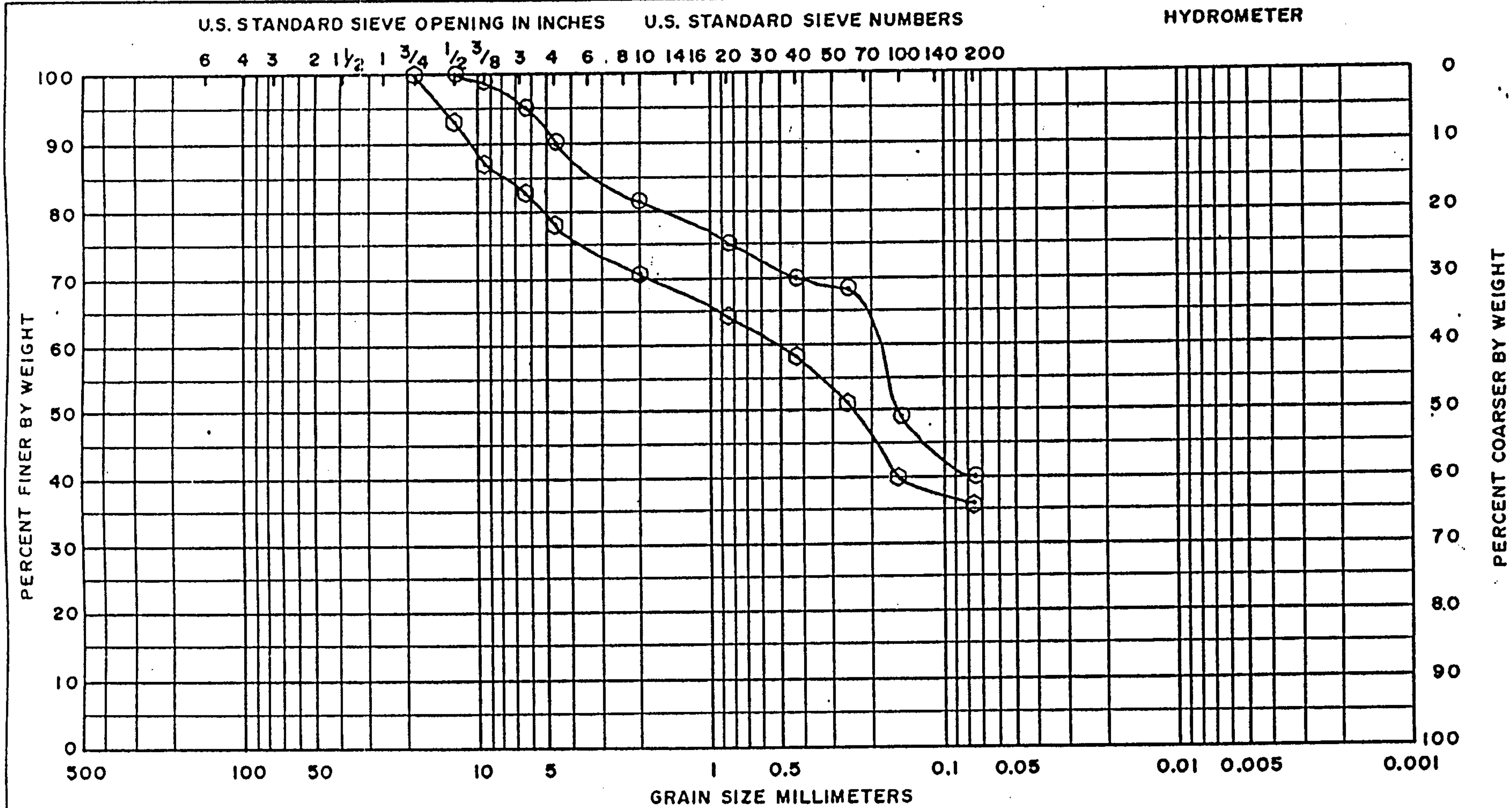
GRAIN SIZE DISTRIBUTION CURVES

STEWART AVE

TESTED BY TS	CHECKED BY RLR	PROJ NO. 5139.01
	DATE 9.10.87	

JGA 003
1 APR 82

JORDAN GORRILL ASSOCIATES
GEOTECHNICAL CONSULTANTS



COBBLES	GRAVEL		SAND			SILT	CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE		

SAMPLE NO.	ELEV. OR DEPTH		CLASSIFICATION	NAT W%	LL	PL	PI
B108	S3	⊙	Sand, some silt, little clay, little fine gravel	12.0%			
B110	S4	⊙	Sand, some silt, little clay, little fine gravel	13.5%			

GRAIN SIZE DISTRIBUTION CURVES

STEWART A.N.G.

TESTED BY	CHECKED BY	PROJ NO.
TS		5139.01
	DATE 9.10.87	

JO[redacted] GO[redacted] ASSO[redacted]ES
GEOTECHNICAL CONSULTANTS

GA 003

APPENDIX C-2

SIEVE ANALYSIS DATA

"LEVEL D"

WATER CONTENT - GENERAL

DATE 9-3-87

PROJECT STEWART ANG JOB NO. 5137.01

BORING AND SAMPLE NO.		MW101 S1	MW109 S1	MW 109 S3	B100 S3	B101-S4	B102 S6
TARE NO.		34	106	75	55	56	5
WEIGHT IN GRAMS: TARE PLUS WET SOIL		207.4	226.7	242.5	251.6	229.6	269.7
TARE PLUS DRY SOIL		289.7	207.4	224.5	237.3	215.3	249.0
WATER	W_w	17.7	19.3	18.0	14.3	14.3	20.7
TARE		72.7	58.2	61.1	58.8	53.0	52.8
DRY SOIL	W_s	217.0	149.2	163.4	178.5	162.3	196.2
WATER CONTENT, %	w	8.2	12.9	11.0	8.0	8.8	10.6
SAMPLE DESCRIPTION							

BORING AND SAMPLE NO.		B103 S2	B103 S7	B104 S4	B105 S5	B106 S3	B106 S6
TARE NO.		60	8	4	53	70	3
WEIGHT IN GRAMS: TARE PLUS WET SOIL		279.8	234.8	261.8	183.3	289.1	263.3
TARE PLUS DRY SOIL		259.1	221.1	245.4	167.8	264.1	238.6
WATER	W_w	20.7	13.7	16.4	15.5	25.0	24.7
TARE		52.5	52.1	53.4	53.7	58.6	51.9
DRY SOIL	W_s	206.6	169.0	192.0	114.1	205.5	186.7
WATER CONTENT, %	w	10.0	8.1	8.5	13.6	12.2	13.2
SAMPLE DESCRIPTION							

BORING AND SAMPLE NO.		B107 S2	B103 S3	B110 S4			
TARE NO.		25	19	51			
WEIGHT IN GRAMS: TARE PLUS WET SOIL		234.9	232.7	237.2			
TARE PLUS DRY SOIL		210.5	213.8	215.3			
WATER	W_w	24.4	18.9	21.9			
TARE		68.7	55.7	52.8			
DRY SOIL	W_s	141.8	158.1	162.5			
WATER CONTENT, %	w	17.2	12.0	13.5			
SAMPLE DESCRIPTION							

REMARKS high 17.2 (B107 S-2) Low 8.0 (B100 S3) AVE = 11.2%

TECHNICAL TS COMPUTED BY TS CHECKED BY

15

PROJECT Stewart Ang	COMP. BY TS	JOB Nº 513[illegible]
	CHK. BY RLR	DATE 8·3·[illegible]

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING MW109 NUMBER S-1 DEPTH ______

MOISTURE CONTENT

TARE Nº 106 Wt. 58.2

SAMPLE+TARE, i 226.7

SAMPLE+TARE, f 207.4

SAMPLE, f 149.2

MOISTURE 19.3

% W_c 12.9

% OF FINES

TARE Nº 106 Wt. 58.2

SAMPLE+TARE, i 207.4

SAMPLE+TARE, f 165.2

Wt. SOIL LOST 42.2

Wt. SOIL, i 149.2

% of FINES 28.2 3

HYDROMETER ANALYSIS

SAMPLE SIZE i ______

MENISCUS CORR (M) ______

DISP. AGENT ______

AMOUNT ____ CORR (C_d) ______

COARSE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
3					
1½					
1				100	[illegible]
3/4		18.0	12.1	[illegible]	[illegible]
1/2		19.6	13.1	[illegible]	[illegible]
3/8		30.3	[illegible]	[illegible]	[illegible]
1/4		40.1	26.9	[illegible]	[illegible]
4		43.0	[illegible]	[illegible]	[illegible]
PAN					

Wt. i ______ Wt. f ______ % Loss ______

FINE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
4		-	-		
10		58.5	39.2	60.8	61
20		72.9	48.9	51.1	51
40		81.2	54.4	45.6	46
60		89.7	60.1	39.9	40
100		99.3	66.6	33.4	33
200		106.5	71.4	28.6	[illegible]
PAN		106.6	—	—	—

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff. Dpth.	$R-C_d+M$ CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	½								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

[illegible]

PROJECT Stewart Ave

COMP. BY TS

CHK. BY RLR

JOB Nº 5139.01

DATE 8-31-87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING MW100 NUMBER S-3 DEPTH

MOISTURE CONTENT

TARE Nº 75 Wt. 61.1

SAMPLE + TARE, i 242.5

SAMPLE + TARE, f 224.5

SAMPLE, f 163.4

MOISTURE 18.0

% Wc [illegible]

% OF FINES

TARE Nº 75 Wt. 61.1

SAMPLE + TARE, i 224.5

SAMPLE + TARE, f 181.5

Wt. SOIL LOST 43.0

Wt. SOIL, i 163.4

% of FINES 26.3

HYDROMETER ANALYSIS

SAMPLE SIZE i

MENISCUS CORR (M)

DISP. AGENT

AMOUNT ____ CORR (C_d)

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1					
	3/4				100	100
	1/2		3.6	2.2	97.8	98
	3/8		12.5	7.8	[illegible]	[illegible]
	1/4		21.3	13.0	87.0	87
	4		33.5	20.5	79.5	[illegible]
	PAN			–		
	Wt. i		Wt. f		% Loss	
FINE ANALYSIS	4			–	—	
	10		59.1	36.2	63.8	64
	20		78.4	48.0	52.0	52
	40		90.3	55.3	44.7	45
	60		100.6	61.6	38.4	38
	100		110.1	67.4	32.6	33
	200		120.0	73.4	26.6	27
	PAN		120.2	73.6	—	–

Wt. i ____ Wt. f ____ % Loss ____ C.F. ____

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	$R-C_d+M$ CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

PROJECT STEWART ANG	COMP. BY TS	JOB Nº 51[illegible]
	CHK. BY [illegible]	DATE [illegible]

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B100 NUMBER S-3 DEPTH ____

MOISTURE CONTENT

TARE Nº 38 Wt. 58.8
SAMPLE + TARE, i 251.6
SAMPLE + TARE, f 237.3
SAMPLE, f 178.5
MOISTURE 14.3
% Wc 8.0%

% OF FINES

TARE Nº 38 Wt. 58.8
SAMPLE + TARE, i 237.3
SAMPLE + TARE, f 160.6
Wt. SOIL LOST 76.7
Wt. SOIL, i 178.5
% of FINES 43.0

HYDROMETER ANALYSIS

SAMPLE SIZE i ____
MENISCUS CORR (M) ____
DISP. AGENT ____
AMOUNT ____ CORR (C_d) ____

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1		—		100	100
	3/4		30.1	16.9	83.1	83
	1/2		—		—	—
	3/8		[illegible]	10.6	[illegible]	[illegible]
	1/4		38.5	21.6	78.4	78
	4		45.8	25.7	74.3	74
	PAN		—			
	Wt. i ____		Wt. f ____		% Loss ____	
FINE ANALYSIS	4		—		—	
	10		56.8	31.8	68.2	68
	20		67.3	37.7	62.3	62
	40		74.8	41.9	58.1	58
	60		82.8	46.4	53.6	54
	100		93.0	52.1	47.9	48
	200		102.0	57.1	42.9	43
	PAN		—			—
	Wt. i ____	Wt. f ____	% Loss ____	C.F. ____		

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	$R-C_d+M$ CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	½								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ____ REAL / ASSUMED

PROJECT	COMP. BY	JOB Nº
Stewart Ang	TS	512[illegible]
	CHK. BY RLR	DATE [illegible]

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B101 NUMBER S4 DEPTH ______

MOISTURE CONTENT

TARE Nº 56 Wt. 53.0
SAMPLE + TARE, i 229.6
SAMPLE + TARE, f 215.3
SAMPLE, f 162.3
MOISTURE 14.3
% W_c [illegible]

% OF FINES

TARE Nº 56 Wt. 53.0
SAMPLE + TARE, i 215.3
SAMPLE + TARE, f 126.5
Wt. SOIL LOST 88.8
Wt. SOIL, i 162.3
% of FINES 54.7

HYDROMETER ANALYSIS

SAMPLE SIZE i ______
MENISCUS CORR (M) ______
DISP. AGENT ______
AMOUNT ____ CORR (C_d) ______

COARSE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
3					
1½					
1					
3/4					
1/2			0	100	100
3/8		3.2	2.0	[illegible]	[illegible]
1/4		5.9	3.5	[illegible]	[illegible]
4		14.8	9.1	[illegible]	91
PAN				—	

Wt. i ______ Wt. f ______ % Loss ______

FINE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
4				—	—
10		28.1	17.3	82.7	83
20		39.5	24.3	75.7	76
40		47.2	29.1	70.9	71
60		55.1	33.9	66.1	66
100		63.9	39.4	60.6	61
200		73.3	45.2	54.8	55
PAN		73.5	45.3	—	—

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-Cd+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R - C_d + M) - 1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

[illegible]

PROJECT STEWART ANG	COMP. BY TS	JOB Nº 5139.01
	CHK. BY RF	DATE 8-31-87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B102 NUMBER S-6 DEPTH ______

MOISTURE CONTENT

- TARE Nº 5 Wt. 52.8
- SAMPLE+TARE, i 269.7
- SAMPLE+TARE, f 249.0
- SAMPLE, f 196.2
- MOISTURE 20.7
- % W_c 10.6

% OF FINES

- TARE Nº 5 Wt. 52.8
- SAMPLE+TARE, i 249.0
- SAMPLE+TARE, f 146.2
- Wt. SOIL LOST 102.8
- Wt. SOIL, i 196.2
- % of FINES 52.4

HYDROMETER ANALYSIS

- SAMPLE SIZE i ______
- MENISCUS CORR (M) ______
- DISP. AGENT ______
- AMOUNT ____ CORR (C_d) ______

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1					
	3/4				100	100
	1/2		8.7	4.4	95.6	96
	3/8		13.2	6.7	93.3	93
	1/4		18.4	9.5	[illegible]	[illegible]
	4		28.7	14.6	85.4	85
	PAN					

Wt. i ______ Wt. f ______ % Loss ______

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
FINE ANALYSIS	4					
	10		44.7	22.8	77.2	77
	20		57.2	29.2	70.8	71
	40		64.4	32.8	67.2	67
	60		73.3	37.4	62.6	63
	100		83.3	42.5	57.5	58
	200		93.3	47.6	52.4	52
	PAN		93.4	—	—	—

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R - C_d + M) - 1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

PROJECT Stewart Ave

COMP. BY TS	JOB № 5139.01
CHK. BY RLK	DATE 8·31·87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING S102 NUMBER S-2 DEPTH ____

MOISTURE CONTENT

TARE № 60 Wt. 52.5

SAMPLE+TARE, i 279.8

SAMPLE+TARE, f 259.1

SAMPLE, f 206.6

MOISTURE 20.7

$\%\ W_c$ 10.0

% OF FINES

TARE № 60 Wt. 52.5

SAMPLE+TARE, i 259.1

SAMPLE+TARE, f 164.0

Wt. SOIL LOST 95.1

Wt. SOIL, i 206.6

% of FINES 46.0

HYDROMETER ANALYSIS

SAMPLE SIZE i ____

MENISCUS CORR (M) ____

DISP. AGENT ____

AMOUNT ____ CORR (C_d) ____

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1					
	3/4					
	1/2				100	100
	3/8		4.0	1.9	98.1	98
	1/4		9.2	4.5	95.5	96
	4		17.0	8.2	91.8	92
	PAN					
	Wt. i ____		Wt. f ____		% Loss ____	
FINE ANALYSIS	4		—	—	—	—
	10		38.2	18.4	81.6	82
	20		54.3	26.3	73.7	74
	40		67.1	32.5	67.5	68
	60		80.2	38.8	61.2	61
	100		96.2	46.6	53.4	54
	200		111.4	53.9	46.1	46
	PAN		111.6	—	—	—
	Wt. i ____	Wt. f ____	% Loss ____		C.F. ____	

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	$R-C_d+M$ CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\%\ FINER = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ____ REAL / ASSUMED

PROJECT Stewart Ang

COMP. BY TS

CHK. BY [illegible]

JOB Nº 513[illegible]

DATE 8-3-8[illegible]

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING 5103 NUMBER [illegible] DEPTH

MOISTURE CONTENT

TARE Nº 8 Wt. 52.1

SAMPLE+TARE, i 234.8

SAMPLE+TARE, f 221.1

SAMPLE, f 169.0

MOISTURE 13.7

% W_c 8.1

% OF FINES

TARE Nº 8 Wt. 52.1

SAMPLE+TARE, i 221.1

SAMPLE+TARE, f 143.3

Wt. SOIL LOST 77.8

Wt. SOIL, i 169.0

% of FINES 46.0

HYDROMETER ANALYSIS

SAMPLE SIZE i

MENISCUS CORR (M)

DISP. AGENT

AMOUNT CORR (C_d)

COARSE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
3					
1½					
1				100	[illegible]
3/4		12.1	7.2	92.8	[illegible]
1/2		17.7	10.5	89.5	90
3/8		[illegible]	[illegible]	[illegible]	[illegible]
1/4		24.6	14.6	85.4	85
4		31.5	18.6	81.4	[illegible]
PAN					

Wt. i ______ Wt. f ______ % Loss ______

FINE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
4					—
10		43.6	25.8	74.2	74
20		53.5	31.7	68.3	68
40		60.9	36.0	64.0	64
60		68.9	40.8	59.2	59
100		79.0	46.7	53.3	53
200		91.2	54.0	46.0	46
PAN		91.4	—	—	

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s - 1}\right) \times \frac{100}{W_i} \left((R - C_d + M) - 1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

PROJECT STEWART ANG	COMP. BY TS	JOB № 5139.01
	CHK. BY [illegible]	DATE 8·31·87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B104 NUMBER S-4 DEPTH ______

MOISTURE CONTENT

TARE № 4 Wt. 53.4
SAMPLE+TARE, i 261.8
SAMPLE+TARE, f 245.4
SAMPLE, f 192.0
MOISTURE 16.4
% W_c 8.5

% OF FINES

TARE № 4 Wt. 53.4
SAMPLE+TARE, i 245.4
SAMPLE+TARE, f 160.3
Wt. SOIL LOST 85.1
Wt. SOIL, i 192.0
% of FINES 44.3

HYDROMETER ANALYSIS

SAMPLE SIZE i ______
MENISCUS CORR (M) ______
DISP. AGENT ______
AMOUNT ____ CORR (C_d) ______

COARSE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
3					
1½				100	100
1		25.7	13.4	86.6	87
3/4		—	—	—	
1/2		—	—	—	
3/8		27.9	[illegible]	[illegible]	[illegible]
1/4		51.2	[illegible]	[illegible]	84
4		37.0	19.3	[illegible]	81
PAN					

Wt. i ______ Wt. f ______ % Loss ______

FINE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
4					
10		50.6	26.4	73.6	74
20		62.8	32.7	67.3	67
40		71.8	37.4	62.6	63
60		82.1	42.8	57.2	57
100		93.9	48.9	51.1	51
200		106.8	55.6	44.4	44
PAN		107.0	—		

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECT
	0								
	½								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s - 1}\right) \times \frac{100}{W_i} \left((R - C_d + M) - 1\right)\right] \times 1000$$

G_s ______ REAL / ASSU

EC0J0FDA

PROJECT Stewart Ang

COMP. BY TS
CHK. BY RLR
JOB № 5139.01
DATE 8·31·87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING 3106 NUMBER 53 DEPTH

MOISTURE CONTENT

TARE № 70 Wt. 58.6
SAMPLE+TARE, i 289.1
SAMPLE+TARE, f 264.1
SAMPLE, f 205.5
MOISTURE 25.0
% W_c 12.2

% OF FINES

TARE № 70 Wt. 58.6
SAMPLE+TARE, i 264.1
SAMPLE+TARE, f 195.0
Wt. SOIL LOST 69.1
Wt. SOIL, i 205.5
% of FINES 33.6

HYDROMETER ANALYSIS

SAMPLE SIZE i
MENISCUS CORR (M)
DISP. AGENT
AMOUNT ___ CORR (C_d)

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1				100	100
	3/4		7.1	3.5	96.5	97
	1/2		9.7	4.7	95.3	95
	3/8		11.6	5.6	94.4	94
	1/4		18.7	9.1	90.9	91
	4		28.1	13.7	86.3	86
	PAN					

Wt. i ______ Wt. f ______ % Loss ______

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
FINE ANALYSIS	4				—	
	10		46.8	22.8	77.2	77
	20		65.4	31.8	68.2	68
	40		80.2	39.0	61.0	61
	60		97.3	47.4	52.6	53
	100		116.3	56.6	44.4	44
	200		135.8	66.1	33.9	34
	PAN		136.5	—	—	—

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s - 1}\right) \times \frac{100}{W_i} \left((R - C_d + M) - 1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

B

PROJECT Stewart Ang | COMP. BY TS | JOB № 5139.01
CHK. BY RLR | DATE 8·31·87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING S 106 NUMBER 55 DEPTH

MOISTURE CONTENT

TARE № 3 Wt. 51.9
SAMPLE+TARE, i 263.3
SAMPLE+TARE, f 238.6
SAMPLE, f 186.7
MOISTURE 24.7
% W_c 13.2

% OF FINES

TARE № 3 Wt. 51.9
SAMPLE+TARE, i 238.6
SAMPLE+TARE, f 164.5
Wt. SOIL LOST 74.1
Wt. SOIL, i 186.7
% of FINES 39.9

HYDROMETER ANALYSIS

SAMPLE SIZE i
MENISCUS CORR (M)
DISP. AGENT
AMOUNT CORR (C_d)

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1					
	3/4					
	1/2				100	100
	3/8		8.0	4.3	95.7	96
	1/4		16.8	9.0	91.0	91
	4		24.3	13.0	87.0	87
	PAN					
	Wt. i		Wt. f		% Loss	
FINE ANALYSIS	4		–			
	10		41.7	22.3	77.7	78
	20		58.2	31.2	68.8	69
	40		71.0	38.0	62.0	62
	60		83.7	44.8	55.2	55
	100		97.0	52.0	48.0	48
	200		112.0	60.0	40.0	40
	PAN		112.8	–	–	–
	Wt. i	Wt. f	% Loss	C.F.		

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

B

PROJECT Stewart Ave	COMP. BY TS	JOB Nº 5130.01
	CHK. BY RLR	DATE 8.31.87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B 107 NUMBER S-2 DEPTH ______

MOISTURE CONTENT

TARE Nº 25 Wt. 68.7

SAMPLE+TARE, i 234.9

SAMPLE+TARE, f 210.5

SAMPLE, f 141.8

MOISTURE 24.4

% Wc 17.2

% OF FINES

TARE Nº 25 Wt. 68.7

SAMPLE+TARE, i 210.5

SAMPLE+TARE, f 123.6

Wt. SOIL LOST 86.9

Wt. SOIL, i 141.8

% of FINES 61.3%

HYDROMETER ANALYSIS

SAMPLE SIZE i ______

MENISCUS CORR (M) ______

DISP. AGENT ______

AMOUNT ____ CORR (C_d) ______

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1					
	3/4					
	1/2				100	100
	3/8		5.0	3.5	96.5	97
	1/4		8.4	5.9	94.1	94
	4		11.3	8.0	92.0	92
	PAN				—	
	Wt. i ______		Wt. f ______		% Loss ______	
FINE ANALYSIS	4				—	
	10		13.6	9.6	90.4	90
	20		16.5	11.6	88.4	88
	40		18.8	13.3	86.7	87
	60		22.6	15.9	84.1	84
	100		30.3	21.4	78.6	79
	200		53.4	37.7	62.3	62
	PAN		54.9	—	—	
	Wt. i ______	Wt. f ______	% Loss ______	C.F. ______		

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

ECJORDANCO

B

PROJECT	COMP. BY	JOB Nº
STEWART ANG	TS	5139.01
	CHK. BY RLR	DATE 8·31·87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B108 NUMBER 53 DEPTH ____

MOISTURE CONTENT

TARE Nº 19 Wt. 55.7

SAMPLE+TARE, i 232.7

SAMPLE+TARE, f 213.8

SAMPLE, f 158.1

MOISTURE 18.9

% W_c 12.0%

% OF FINES

TARE Nº 19 Wt. 55.7

SAMPLE+TARE, i 213.8

SAMPLE+TARE, f 158.8

Wt. SOIL LOST 55.0

Wt. SOIL, i 158.1

% of FINES 34.8 ~~35.2~~

HYDROMETER ANALYSIS

SAMPLE SIZE i ____

MENISCUS CORR (M) ____

DISP. AGENT ____

AMOUNT ____ CORR (C_d) ____

COARSE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
3					
1½					
1					
3/4				100	100
1/2		11.5	7.3	92.7	93
3/8		20.0	12.7	87.3	87
1/4		26.3	16.7	83.3	83
4		34.2	21.6	78.4	78
PAN					

Wt. i ____ Wt. f ____ % Loss ____

FINE ANALYSIS

SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
4		—			
10		45.9	29.0	71.0	71
20		57.6	36.4	63.6	64
40		66.4	42.0	58.0	58
60		77.6	49.1	50.9	51
100		95.1	60.2	39.8	40
200		103.2	64.5	35.5	~~36~~ 35
PAN		103.8			

Wt. i ____ Wt. f ____ % Loss ____ C.F. ____

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \left((R-C_d+M)-1\right)\right] \times 1000$$

G_s ____ REAL / ASSUMED

PROJECT STEWART ANG

COMP. BY TS | JOB Nº 5139.01
CHK. BY RLR | DATE 8.31.87

GRAIN SIZE ANALYSIS

SAMPLE I.D: BORING B110 NUMBER S4 DEPTH ______

MOISTURE CONTENT

TARE Nº S 51 Wt. 52.8
SAMPLE + TARE, i 237.2
SAMPLE + TARE, f 215.3
SAMPLE, f 162.5
MOISTURE 21.9
% Wc 13.5

% OF FINES

TARE Nº 51 Wt. 52.8
SAMPLE + TARE, i 215.3
SAMPLE + TARE, f 150.4
Wt. SOIL LOST 64.9
Wt. SOIL, i 162.5
% of FINES 40.0

HYDROMETER ANALYSIS

SAMPLE SIZE i ______
MENISCUS CORR (M) ______
DISP. AGENT ______
AMOUNT ____ CORR (C_d) ______

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
COARSE ANALYSIS	3					
	1½					
	1					
	3/4					
	1/2		0		100	100
	3/8		1.8	1.1	98.9	99
	1/4		8.2	5.1	94.9	95
	4		16.1	9.9	90.1	90
	PAN					

Wt. i ______ Wt. f ______ % Loss ______

	SIEVE	Wt. RETAINED WITH TARE	Wt. RETAINED WITHOUT TARE	% RET	% PASS	CORRECT'D
FINE ANALYSIS	4					
	10		29.7	18.3	81.7	82
	20		40.3	24.8	75.2	75
	40		48.5	30.0	70.0	70
	60		60.2	31.7	68.3	68
	100		82.3	50.7	49.3	49
	200		98.1	60.4	39.6	40
	PAN		98.3	60.5	—	—

Wt. i ______ Wt. f ______ % Loss ______ C.F. ______

TIME	Δt MIN	TEMP/K	ACTUAL HYDRO	R CORR'D	L Eff.Dpth.	R-C_d+M CALC	$d=K\sqrt{\frac{L}{T}}$ SIZE	% Finer	CORRECTED
	0								
	1/2								
	1								
	2								
	4								
	8								
	15								
	30								
	60								
	120								
	240								
	480								
	1440								

$$\% \text{ FINER} = \left[\left(\frac{G_s}{G_s-1}\right) \times \frac{100}{W_i} \quad \left((R - C_d + M) - 1\right)\right] \times 1000$$

G_s ______ REAL / ASSUMED

APPENDIX D

FIELD PERMEABILITY TEST DATA

TABLE D-1

RISING HEAD PERMEABILITY TEST DATA

JMW108 PERMTEST

Diameter of riser = 0.166
Length of zone = 7
Diameter of zone = 0.66
Static water level = 8.38
Number of readings = 20

Time (min.)	Excess Head (ft.)
0	5.1
1	4.88
2	4.67
3	4.41
4	4.09
5	3.88
6	3.66
7	3.42
8	3.2
9	2.97
10	2.78
11	2.58
12	2.41
13	2.26
14	2.11
15	1.95
20	1.38
25	0.88
30	0.61
35	0.48

$K = 5.13 \times 10^{-5}$ cm/sec

JMW109 PERMTEST

Diameter of riser = 0.166
Length of zone = 7
Diameter of zone = 0.666
Static water level = 9.91
Number of readings = 14

Time (min.)	Excess Head (ft.)
0	2.04
.5	1.93
1	1.87
2	1.73
3	1.59
4	1.48
5	1.39
6	1.3
7	1.22
8	1.15
9	1.08
10	1.01
15	0.74
20	0.61

$K = 5.19 \times 10^{-5}$ cm/sec

JMW107 PERMTEST

Diameter of riser = 0.166
Length of zone = 7
Diameter of zone = 0.66
Static water level = 10.13
Number of readings = 18

Time (min.)	Excess Head (ft.)
.5	1.98
1	1.9
1.5	1.86
2	1.84
3	1.78
4	1.75
5	1.69
6	1.65
7	1.61
8	1.57
9	1.53
10	1.49
15	1.14
21	0.89
29	0.49
30	0.47
40	0.17
50	0.13

$K = 4.20 \times 10^{-5}$ cm/sec

JMW101 PERMTEST

Diameter of riser = 0.166
Length of zone = 12
Diameter of zone = 0.333
Static water level = 31.23
Number of readings = 16

Time (min.)	Excess Head (ft.)
0	1.41
.5	1.34
1	1.34
2	1.24
3	1.20
4	1.17
5	1.13
6	1.13
7	1.11
8	1.09
9	1.08
10	1.07
15	1.02
20	0.94
25	0.88
30	0.84

$K = 2.24 \times 10^{-5}$ cm/sec

APPENDIX G

DAMES AND MOORE - BORING AND MONITORING WELL DATA

MAJOR DIVISIONS			GRAPH SYMBOL	LETTER SYMBOL	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL-SAND MIXTURES, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE	GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL-SAND-SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES
	SAND AND SANDY SOILS	CLEAN SAND (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE				SP	POORLY-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
	MORE THAN 50% OF COARSE FRACTION PASSING NO. 4 SIEVE	SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND-SILT MIXTURES
				SC	CLAYEY SANDS, SAND-CLAY MIXTURES
FINE GRAINED SOILS	SILTS AND CLAYS	LIQUID LIMIT LESS THAN 50		ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE	SILTS AND CLAYS	LIQUID LIMIT GREATER THAN 50		MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

SOIL CLASSIFICATION CHART

UNIFIED SOIL CLASSIFICATION SYSTEM

DAMES & MOORE

FIGURE A-1

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-1
SURFACE ELEV: 436.0'

DRILLING METHOD: Hollow stem auger

SAMPLING METHOD: Split spoon

DATE STARTED: 9/12/85
DATE FINISHED: 9/16/85

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
1	40	SS	0		Brown moist silt and fine to medium sand, little medium gravel
			1	SM	grading to brownish-gray, silt, dry, some fine gravel and coarse sand, little coarse to medium gravel
			2	-- ML	Hnu=0ppm
			3		
			4		Gray dry silt, little fine to medium gravel, little sand
2	103	SS	5		Hnu=0ppm
			6		
			7		
			8		boulder drilled at 8.0'
			9		
3	88	SS	10		grades to some sand, little fine to coarse gravel
			11		Hnu=0ppm
			12	ML	
			13		
			14		
4	128	SS	15		cobble at 15.0'
			16		
			17		
			18		
			19		
5	77	SS	20		

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-1

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
			20		
			21		
			22		boulder at 23.0'
			23		
			24		
6	108	SS	25		grades to little sand Hnu=0ppm
			26		
			27		
			28	ML	
			29		
7	146	SS	30		Hnu=<1ppm
			31		
			32		
			33		
			34		
8	80/2"	SS	35		Hnu=<1ppm
			36		
			37		
			38		Brown with iron staining, fissile, weathered shale, dry to moist, wet zone from 40'1" to 40'2", some silt
			39		
9	100/3"	SS	40		

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-1

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
			40	WEATHERED ROCK	
			41		
			42		
			43		
			44		
10	100/5"	SS	45		grades to gray, dry with iron staining
			46		
			47		
			48		Bedrock, spoon refusal, no sample Hnu=0ppm
			49		Boring terminated at a depth of 50.0 feet on 9/16/85
	100/0"		50		

NOTE: Hnu readings are field detections of organic vapors given off by soil samples; measured with an Hnu photoionization meter set to a 9.8 span.

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-2
SURFACE ELEV: 433.5'

DRILLING METHOD: Hollow stem auger

SAMPLING METHOD: Split spoon

DATE STARTED: 9/18/85
DATE FINISHED: 9/19/85

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
1	32	SS	0		Brown, mottled, dry to moist, fine sand and silt, little fine gravel Hnu=0ppm
			1		
			2	SP	
			3		
			4		
2	100	SS	5	SM	Brown, dry fine sand, little fine to medium gravel Hnu=0ppm
			6		Brown, moist, fine sand, little medium to coarse sand and fine gravel, trace silt Hnu=0ppm
			7		
			8		
			9	SP	
3	92	SS	10		grades to dry, less gravel
			11		
			12		
			13		Gray, moist, silt, little fine to medium gravel, little fine sand Hnu=0ppm
			14		
4	75	SS	15		
			16		
			17	ML	
			18		
			19		
			20		

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-2

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
			20		no soil sample; cuttings are gray silt drilled boulder at 21 feet
	100/5"		21		
			22		
			23		
			24		
5	80	SS	25		grades to dry to slightly moist, little fine to medium sand, little fine to coarse gravel. Hnu=10ppm
			26		
			27	ML	
			28		
			29		
6	20/1"	SS	30		no soil sample; cuttings are gray silt
			31		
			32		
			33		
			34		
7	100/1"	SS	35		Brown-gray with iron stains, weathered, slightly, metamorphosed shale Hnu=200ppm
			36		
			37	ROCK	
			38		
			39		
8	100/1/2"	SS	40		Hnu=8ppm

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-2

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
			40		
			41		
			42		
			43		
			44		
	100/0"	SS	45	BEDROCK	Spoon bounces; bedrock
			46		
			47		
			48		
			49		
	50/0"		50		Boring terminated at a depth of 50.0 feet on 9/19/85

NOTE: Hnu readings are field detections of organic vapors given off by soil samples; measured with an Hnu photoionozation meter set to a 9.8 span.

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-3
SURFACE ELEV: 432.6'

DRILLING METHOD: Hollow stem auger

SAMPLING METHOD: Split sploon

DATE STARTED: 9/24/85
DATE FINISHED: 9/26/85

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
1	46	SS	0	SM	Gray-brown, dry to slightly moist, mottled fine sand, some fine to medium gravel, little silt
			1		Hnu=0ppm
			2		boulder at 3.0'
			3		
			4		
2	31	SS	5		grades to mottled, tan-light brown, moist
			6		Hnu=0ppm
			7		boulder at 8.0'
			8		
			9		
3	74	SS	10		Hnu=0ppm
			11		boulder at 12.0'
			12		
			13		
			14		
4	52	SS	15	SP	Tan to light brown, moist, fine sand, some fine to coarse gravel, trace silt
			16		Hnu=0ppm
			17		
			18		
			19		
5	86	SS	20	SM	Yellow-tan, dry to slightly moist, fine

FIGURE A

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-3

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
			20	SM	sand and silt, little fine to medium gravel
			21		grades to brown, dry, no gravel grades to gray slightly moist
			22	ML	Gray, slightly moist silt, some fine to medium gravel, some fine sand Hnu=Øppm
			23		
			24		
6	5Ø/6"	SS	25		
			26		
			27		
			28		
			29		
7	5Ø/3"	SS	3Ø		cobble at 3Ø.Ø' grades to dry, little fine to coarse gravel Hnu=Øppm
			31		
			32		
			33		
			34		
8	7Ø/1/2"	SS	35		grades to no gravel Hnu=Øppm
			36		
			37		
			38		
			39		grades to light gray silt and gravel
	5Ø/1/2"		4Ø		

DAMES & MOORE
BORING LOG

CLIENT: STEWART AIR NATIONAL GUARD BASE
LOCATION: NEWBURGH, NY

BORING NO.: SW-3

SAMPLE NO.	BLOWS/FT	SAMPLE TYPE	DEPTH IN FT.	SOIL GRAPH	MATERIAL DESCRIPTION
			40		Hnu=Øppm
			41	ML	
			42		
			43		Weathered rock Hnu=Øppm
			44		drilled easy from 44 1/2 to 45 feet
9	70/1"	SS	45		Shale bedrock Hnu=Øppm
			46		
			47		
			48		
			49		Boring terminated at a depth of 49.5 feet on 9/26/85
			50		

NOTE: Hnu readings are field detections of organic vapors given off by soil samples; meadured with an Hnu photoionozation meter set to a 9.8 span.

APPENDIX B-2

ROCK CORE LOGS

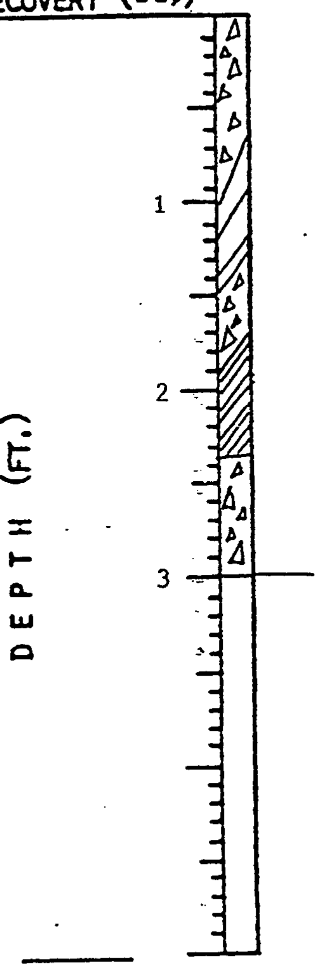
VISUAL IDENTIFICATION OF ROCK CORES

SHEET 1 OF 2

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-110
Logged By T. Longley	Date 8-19-87	Protection Level D
Core Diameter NX (2")	Core Run No. R-1	Depth 18.9 ft to 22.9 ft. (4')
Core Recovery 3 ft.	RQD 42 %	Core Quality Fair

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 3' (4)

75 %

TOTAL 20" (48)

42 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale - gray to blackish gray, thinly laminated, medium soft, moderately fractured and broken, 42% RQD, slight to moderate weathering with many fractures showing bright oxidation staining.
Cleavage is // to bedding and at 20° to core axis.
Few fractures up to 60° to axis
Few open vugs
Very crumbly at bottom of run

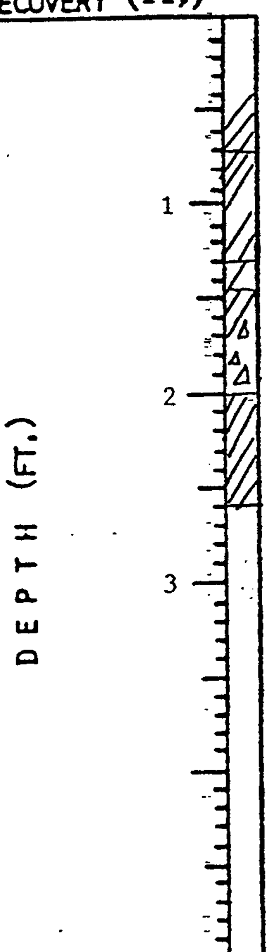
VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-110
Logged By T. Longley	Date 8-19-87	Protection Level D
Core Diameter NX (2")	Core Run No. R-2	Depth 22.9 ft to 26.2 ft. (3.3')
Core Recovery 2.6 ft.	RQD 52 %	Core Quality Fair

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY

ROCK DESCRIPTION AND IDENTIFICATION



Shale – As above but less fractured

Last 9" of core is severely weathered along fracture faces

End of Core

TOTAL 2.6 (3.3) 79%

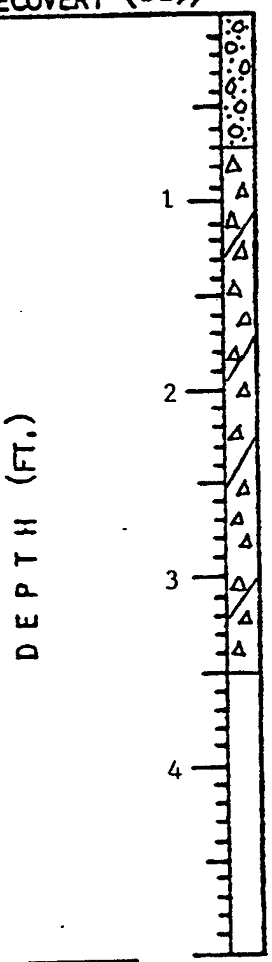
TOTAL 1.7 (3.3) 52 %

VISUAL IDENTIFICATION OF ROCK CORES

SHEET 1 OF 2

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-101
Logged By S. Pinette	Date 8-6-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-1	Depth 37.0 ft to 41.5 ft. (4.5)
Core Recovery 3.5 ft.	RQD 0 %	Core Quality Very poor

CORE
RECOVERY (FT.)



.3 FT.
CORE RECOVERY

Soil - Till

Highly broken and
Fractured

End of Core

ROCK DESCRIPTION AND IDENTIFICATION

Upper 0.7' (37.0'-37.7') is olive grey till mixed with medium grey shale fragments.

remainder of core is medium grey shale; well cleaved; cleavage planes stained rusty brown and medium greenish brown; cleavage oriented at 45° to core axis. Only 4 pieces of core are at least 1" in diameter.

TOTAL 3.5 (4.5)
77 %

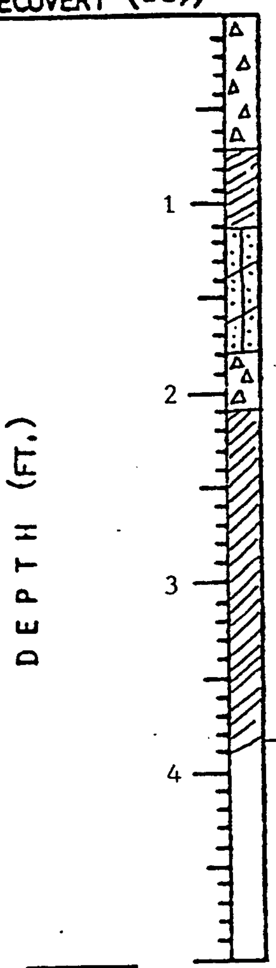
TOTAL 0 (4.5)
0 %

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-101
Logged By S. Pinette	Date 8-7-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-2	Depth 41.5 ft to 46.5 ft. (5)
Core Recovery 3.9 ft.	RQD 36 %	Core Quality Poor to fair

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



Feldspathic Sandstone

End of Core

TOTAL 3.9 (5.0)

78 %

TOTAL 1.8 (5.0)

36 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale - predominantly medium grey, closely cleaved; cleavage plane oriented at 45° to core axis; cleavage surface stained medium greenish brown and, in frequently, rusty brown (geothite); vertical joint (parallel to core axis) discontinous (0.1') in shale

Feldspathic Sandstone -- 0.7' bed interbedded with shale (42.6' to 43.3') fine grain, light grey/tan color; laminated parallel to cleavage in shale; relatively massive

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-102
Logged By J. Urquhart	Date 8-12-87	Protection Level D
Core Diameter Roller Bit 3.5"	Core Run No.	Depth 51.6 ft to 61.6 ft.
Core Recovery 0* ft.	RQD 0 %	Core Quality

*No rock core made - hole advanced into rock with tri-cone roller bit.

CORE RECOVERY (FT.)	.3 FT. CORE RECOVERY	ROCK DESCRIPTION AND IDENTIFICATION
DEPTH (FT.)		
TOTAL _____ ( )	TOTAL _____ ( )	
_____ %	_____ %	

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-103
Logged By T. Longley	Date 8-14-87	Protection Level D
Core Diameter Roller Bit 3.5"	Core Run No. --	Depth 43 ft to 51.4 ft.
Core Recovery 0* ft.	RQD 0 %	Core Quality

*No rock core made - hole advanced into rock with tri-cone roller bit.

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY

ROCK DESCRIPTION AND IDENTIFICATION

DEPTH (FT.)

TOTAL _____ ( )

_____ %

TOTAL _____ ( )

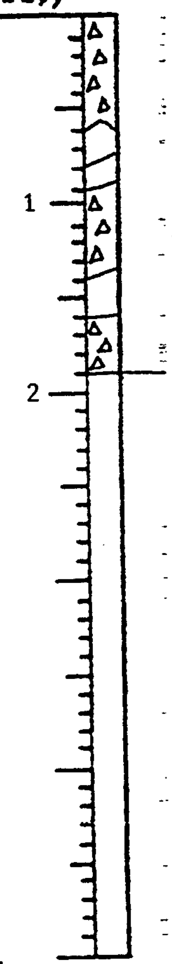
_____ %

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB		Boring No. JTB-104
Logged By T. Longley	Date 8-11-87		Protection Level D
Core Diameter NX (≈2")	Core Run No. R-1	Depth 27 ft to 30.5 ft. (3.5)	
Core Recovery 1.9 ft.	RQD 0 %	Core Quality Very poor	

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



End of Core

DEPTH (FT.)

TOTAL 1.9 (3.5)

54 %

TOTAL 0 (3.5)

0 %

ROCK DESCRIPTION AND IDENTIFICATION

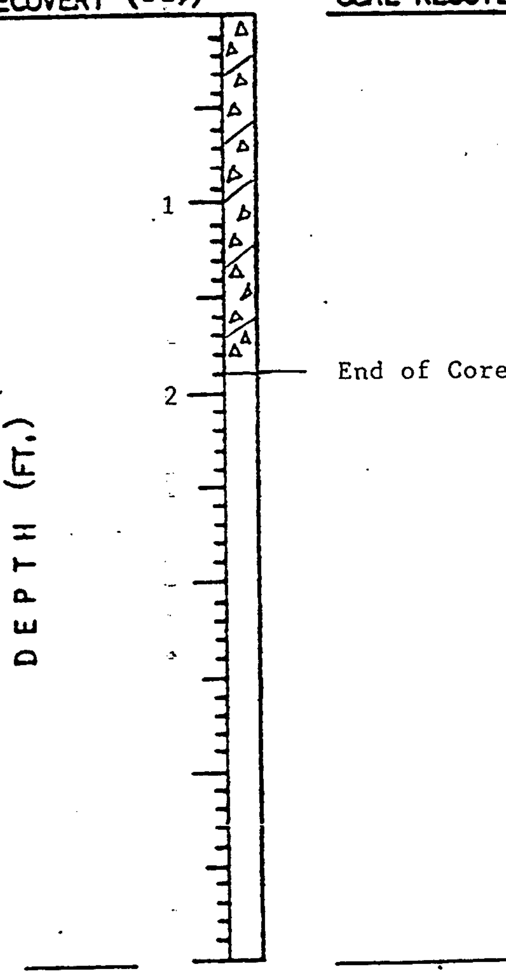
Black to grayish black shale, highly fractured and broken with numerous interconnecting, randomly oriented joints and open fractures. No one piece is as large as 4"; most are less than 2". Weathering of fracture is moderately fresh, especially near 30', which has moderate staining and distinct FeO and Mn O_2 staining on fracture faces. No distinct layering or foliation

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-104
Logged By T. Longley	Date 8-12-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-2	Depth 30.5 ft to 32.5 ft. (2')
Core Recovery 1.9 ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 1.9 (2)

95 %

TOTAL 0' (2)

0 %

ROCK DESCRIPTION AND IDENTIFICATION

Same rock type as in R-1 - highly fractured and broken shale, common joints and fractures, few open ½" in size; top of run is extremely broken and pebbly, bottom ½' of recovered core is severely weathered rock (prevented penetration and caused core block), very (soil-like) weak and crumbly; one rock piece shows bedding at 55° to long core axis; FeO & MnO_2 is faint to distinct throughout core

Some fragments exhibit highly sheared and rehealed rock.

Thin interbedded layers of feldspathic sandstone

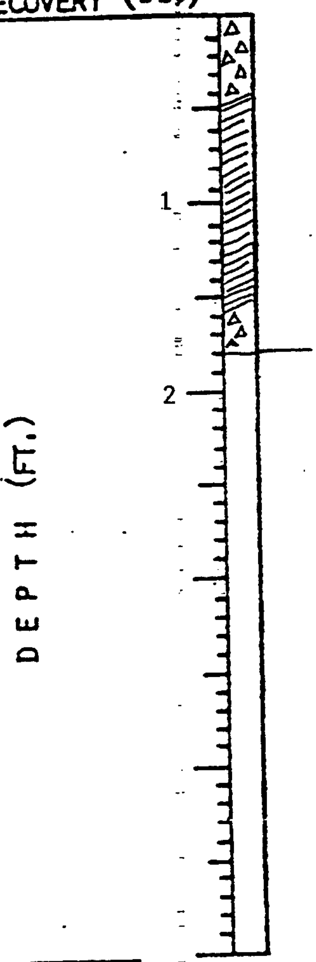
EC.JORDAN CO.

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-104
Logged By T. Longley	Date 8-12-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-3	Depth 32.5 ft to 34.3 ft. (1.8')
Core Recovery 1.8 ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 1.5 (1.8)

83 %

TOTAL 0 (1.8)

0 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale

Same as above; extremely fractured and broken, crumbly, very weak, moderate to severe weathering; no piece of core longer than 1". Top of recovery is slough from soil zone - pebbles and gravel

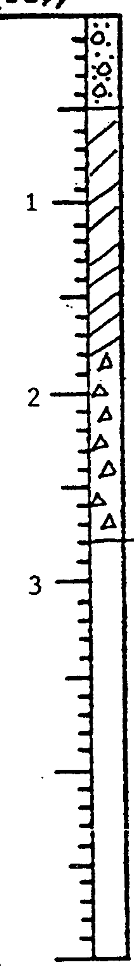
Core recovery is very subjective due to the poor rock quality

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-106
Logged By S. Pinette	Date 8-3-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-1	Depth 19.5 ft to 23.0 ft. (3.5)
Core Recovery 2.3 ft.	RQD 9 %	Core Quality Poor

CORE RECOVERY (FT.)

DEPTH (FT.)



.3 FT. CORE RECOVERY

Soil - Till

Shale

End of Core

TOTAL 2.3 (3.5) 66 %

TOTAL 0.3 (3.5) 9 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale - Medium grey colored; closely spaced cleaved planes are well developed and stained medium brown (FeO/MnO); cleavage and stratification are parallel and oriented at 40-50° with respect to core axi trace calcite peds and veinlets occur throughout, oriented both parallel and transverse to bedding/cleavage

Note: Majority of core breaks occu along cleavage planes; no joints evident in this run

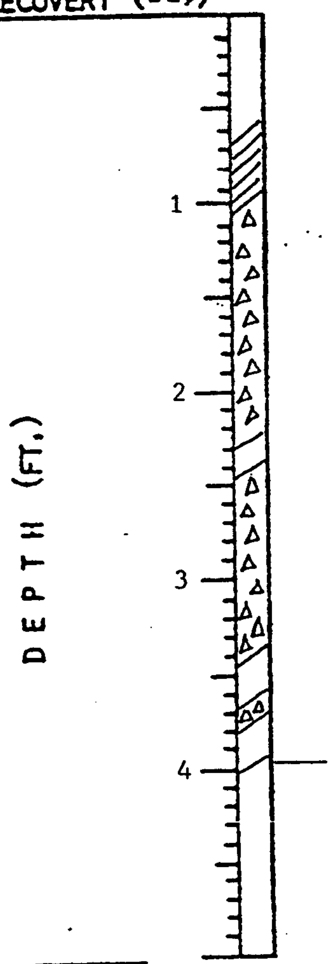
E.C.JORDAN CO.

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-106
Logged By S. Pinette	Date 8-4-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-2	Depth 23.0 ft to 27.0 ft. (4.0)
Core Recovery 4.0 ft.	RQD 18 %	Core Quality Fair to poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 4.0 (4.0)

100 %

TOTAL 0.7 (4)

18 %

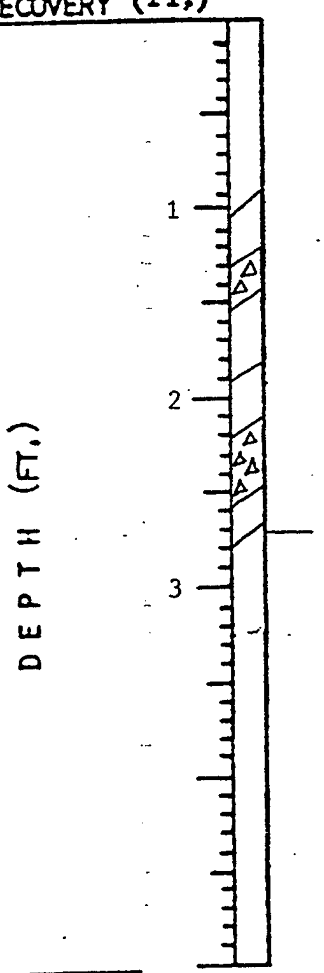
ROCK DESCRIPTION AND IDENTIFICATION

Shale - essentially same as described for R-1; discontinuous, poorly developed joints present; oriented 90° to cleavage plane; joint surface stained iron-oxide (geothite) rusty yellowish brown color which is distinct from stain on cleavage surfaces; joints are relatively sparse

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB		Boring No. JTB-106
Logged By S. Pinette	Date 8-4-87		Protection Level D
Core Diameter NX (≈2")	Core Run No. R-3	Depth 27.0 ft to 30.0 ft. (3.0)	
Core Recovery 2.8 ft.	RQD 78 %	Core Quality Good	

CORE RECOVERY (FT.) | .3 FT. CORE RECOVERY | ROCK DESCRIPTION AND IDENTIFICATION



Shale as described in R-2 above; joints are more abundant and slightly better developed then in R-2; joints spaces as closely as 1 inch in some core sections

TOTAL 3.0' (3.0) | TOTAL 2.35 (3.0)

100 % | 78 %

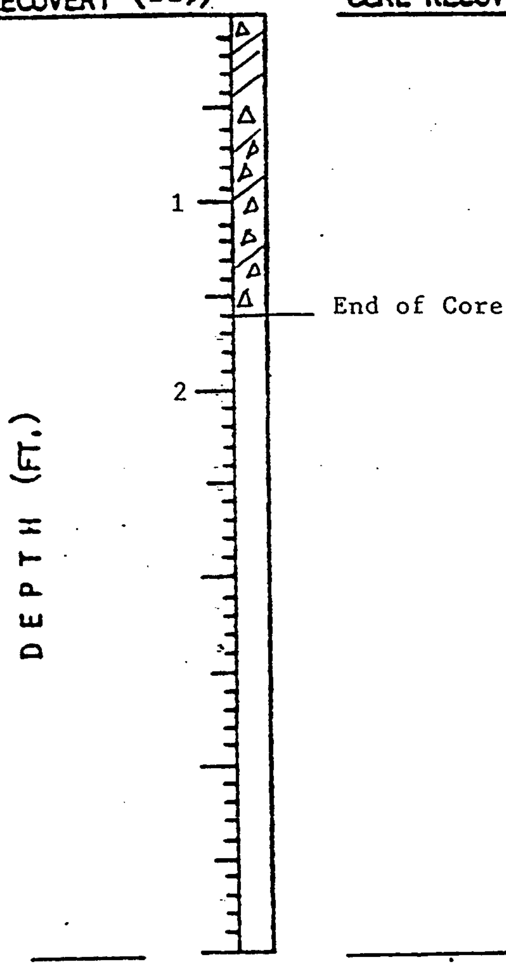
E.C.JORDAN CO.

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-107
Logged By T. Longley	Date 8-19-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-1	Depth 10 ft to 14 ft. (4)
Core Recovery 1.6 ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 1.6 (4) TOTAL 0 (4)

40 % 0 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale

gray shale

highly fractured and broken
slicken sides throughout
reddish brown to yellowish stain
on most all surfaces

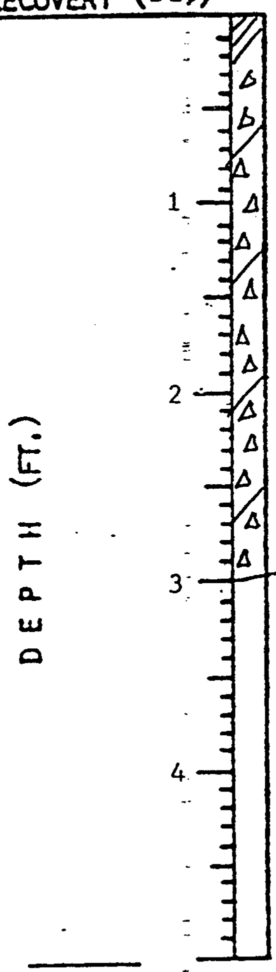
VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-107
Logged By T. Longley	Date 8-19-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-2	Depth 14 ft to 17 ft. (3')
Core Recovery 4' ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY

ROCK DESCRIPTION AND IDENTIFICATION



End of Core

Shale - Gray, thinly laminated medium-hard, highly fractured and broken, slight to moderate weathering staining on all fracture surfaces

Cleavage is 36° to core axis and is // to bedding lineation

TOTAL 4 (4)
100 %

TOTAL 0 (3)
0 %

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB		Boring No. JTB-107
Logged By T. Longley	Date 8-20-87		Protection Level D
Core Diameter NX (≈2")	Core Run No. R-3	Depth 17 ft to 19.3 ft. (2.3)	
Core Recovery 3.5 ft.*	RQD 0 %	Core Quality Very poor	

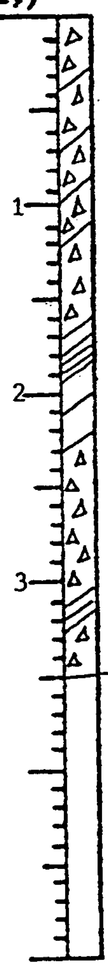
CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY

ROCK DESCRIPTION AND IDENTIFICATION

Shale – Same as R-1 and R-2

DEPTH (FT.)



End of Core

TOTAL 3.5 (2.3) 100 %*

TOTAL 0 (2.3) 0 %

*R-3 recovered some of the broken fragments from R-2

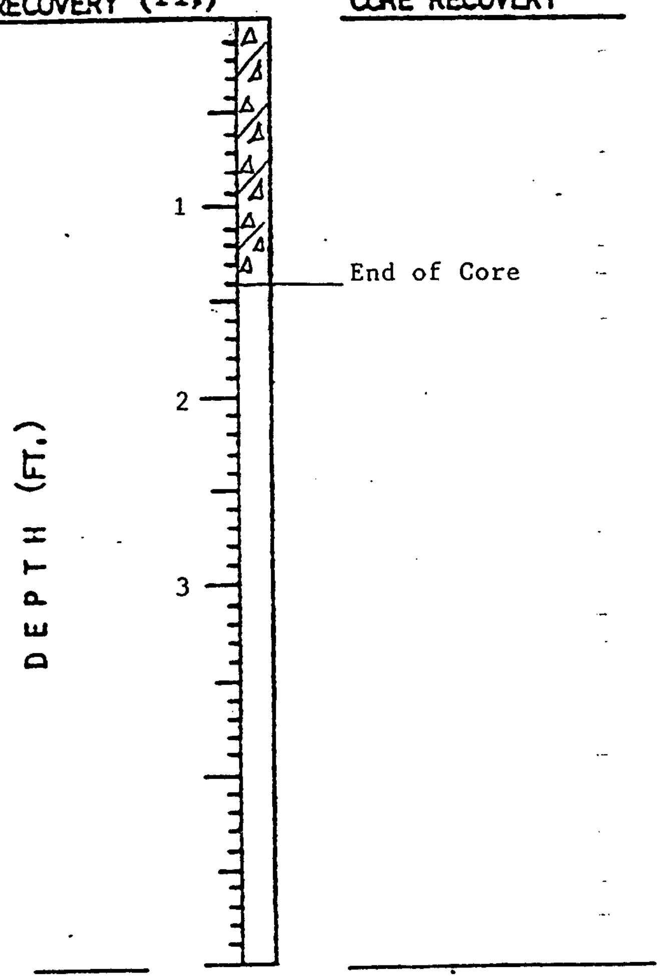
E.C.JORDAN CO.

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-108
Logged By T. Longley	Date 8-20-87	Protection Level D
Core Diameter NX (≈2")	Core Run No. R-1	Depth 12.8 ft to 17.8 ft. (5)
Core Recovery 1.4 ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 1.4' (5) TOTAL 0 (5)

28 % 0 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale - gray to blackish gray thinly laminated medium soft to medium hard with depth, highly fractured and broken, medium weathering at top to slight with depth

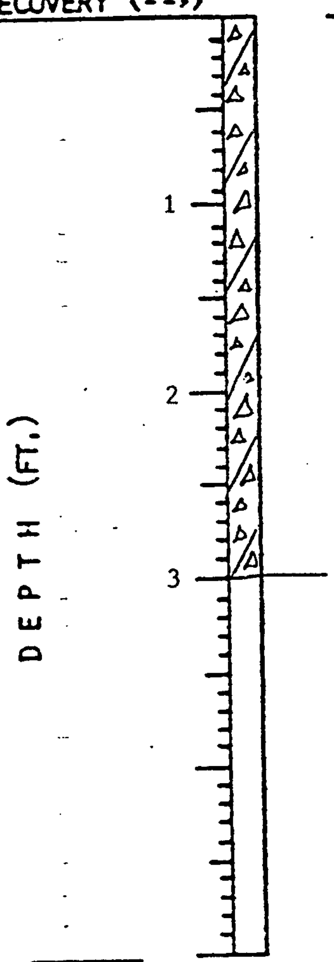
Cleavage 50° to long axis

VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-108
Logged By T. Longley	Date 8-20-87	Protection Level D
Core Diameter NX ≮2")	Core Run No. R-2	Depth 17.8 ft to 22.8 ft. (5)
Core Recovery 3.0 ft.	RQD 14 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



End of Core

TOTAL 3 ( )

60%

TOTAL .7 (5)

14 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale - blackish gray to black thinly laminated, medium hard to hard, fresh to slight weathering highly fractured and broken

Cleavage is // to laminations and at 45° to long axis

Trace of disseminated pyrite

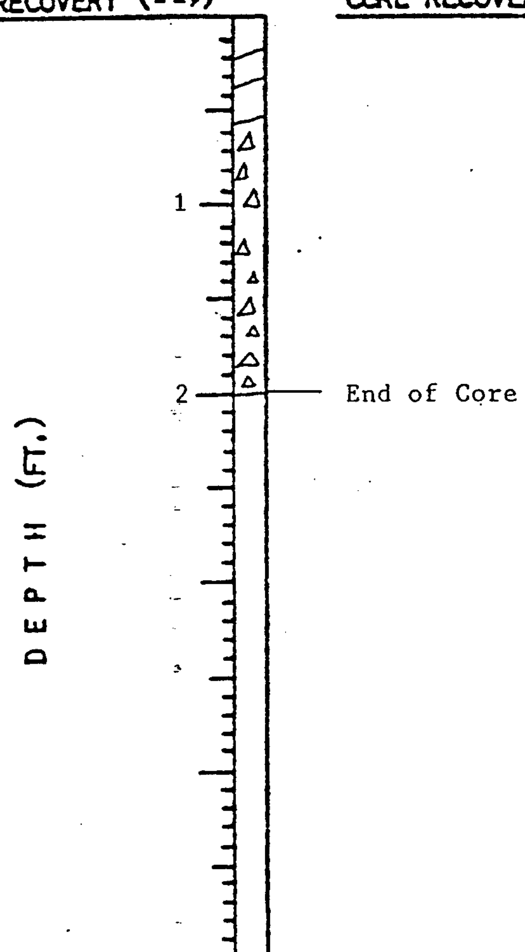
VISUAL IDENTIFICATION OF ROCK CORES

Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-109
Logged By T. Longley	Date 8-19-87	Protection Level D

Core Diameter NX (≈2")	Core Run No. R-1	Depth 10 ft to 14.3 ft. (4.3')
Core Recovery 2.0 ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY



TOTAL 2.0 (4.3)

47 %

TOTAL 0 (4.3)

0 %

ROCK DESCRIPTION AND IDENTIFICATION

Shale - gray, thinly laminated, medium hard, highly fractured and broken, fresh to slight weathering

Can't measure ∢'s at all due to broken nature of rock

E.C.JORDAN CO.

VISUAL IDENTIFICATION OF ROCK CORES

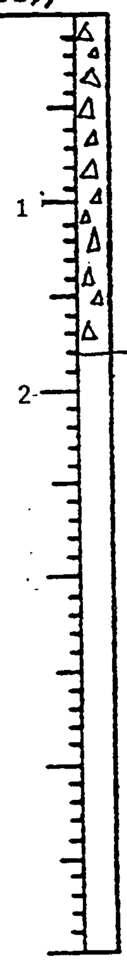
Project No. 5139-01	Project Name Stewart ANGB	Boring No. JTB-109
Logged By T. Longley	Date 8-19-87	Protection Level D
Core Diameter NX ≈2")	Core Run No. R-2	Depth 14.3 ft to 18.5 ft. (4.2)
Core Recovery 1.8 ft.	RQD 0 %	Core Quality Very poor

CORE RECOVERY (FT.)

.3 FT. CORE RECOVERY

ROCK DESCRIPTION AND IDENTIFICATION

DEPTH (FT.)



End of Core

Shale same as above -
recovered very short pieces
but these show more weathering on
all fracture faces

TOTAL 1.8 (4.2)

43 %

TOTAL 0 (4.2)

0 %

E.C. JORDAN CO.

APPENDIX B-3

MONITORING WELL INSTALLATION SHEETS

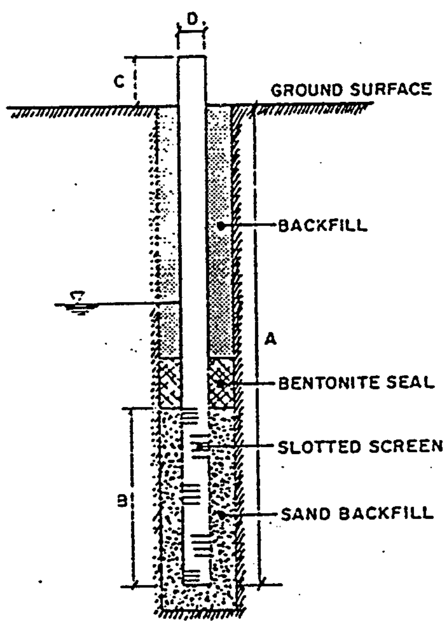
SITE Stewart ANGB JOB NO. 5139-01

MONITORING WELL DESIGNATION JMW-101 INSTALLATION DATE 8/3/87

DIAMETER OF WELL 0.166' MATERIAL SCH 40 PVC

LOCKING PROTECTIVE COVER YES ✓ NO ___ ~~DRILLER~~ ECJ DEVELOPED YES ✓ NO ___

WELL CONSTRUCTION



A = 32.75'

B = 12.0'

C = 2.41 CASING

D = 0.166'

NOTES

10' SCREEN LENGTH

WATER LEVEL RANGE 31.44

ELEVATION OF WELL AT GRADE ___

GROUNDWATER INFORMATION

APPROXIMATE RECHARGE / YIELD ___

WELL SCREEN POSITIONED IN TILL
(i.e. till, clay, rock)

GROUNDWATER MONITORING / SAMPLING DATA

RECOMMENDED TYPE OF EQUIPMENT TO FLUSH WELL ___

RECOMMENDED AMOUNT OF FLUSHING ___

SAMPLING PROCEDURES

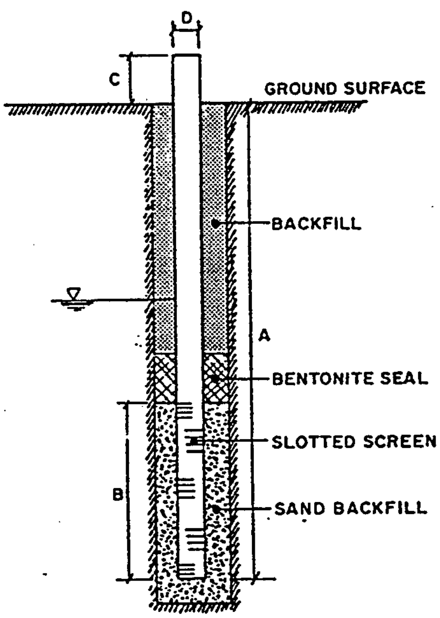
SITE Stewart ANGB JOB NO. 5139-01

MONITORING WELL DESIGNATION JMW - 107 INSTALLATION DATE 8/3/87

DIAMETER OF WELL 0.166 FT MATERIAL SCH. 40 PVC ; 0.010" SLOTTED SCREEN

LOCKING PROTECTIVE COVER YES ✓ NO ___ ECJ ~~DRILLER~~ DEVELOPED YES ✓ NO ___

WELL CONSTRUCTION



A = 9.38'

B = 7.0'

C = 3.25' CASING

D = 0.166'

NOTES

5' SCREEN LENGTH

WATER LEVEL RANGE 10.25 - 10.55

ELEVATION OF WELL AT GRADE ___

GROUNDWATER INFORMATION

APPROXIMATE RECHARGE/YIELD ___

WELL SCREEN POSITIONED IN TILL
(i.e. till, clay, rock)

GROUNDWATER MONITORING/SAMPLING DATA

RECOMMENDED TYPE OF EQUIPMENT TO FLUSH WELL ___

RECOMMENDED AMOUNT OF FLUSHING ___

SAMPLING PROCEDURES

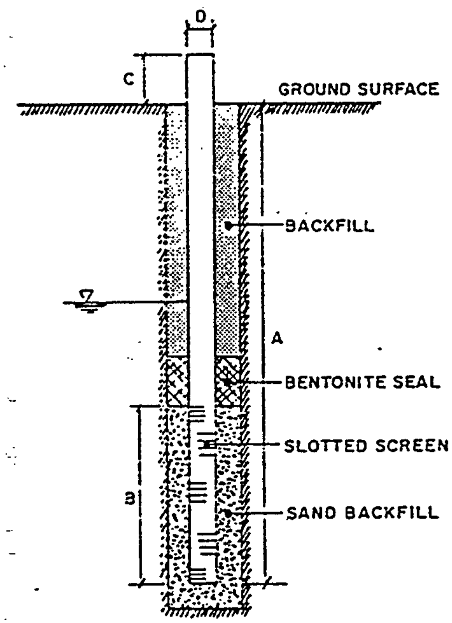
SITE Stewart ANGB JOB NO. 5139-01

MONITORING WELL DESIGNATION JMW - 108 INSTALLATION DATE 8/4/87

DIAMETER OF WELL 0.166 FT MATERIAL SCH. 40 PVC ; 0.010" SLOT SIZE SCREEN

LOCKING PROTECTIVE COVER YES ✓ NO ___ ECJ ~~DRILLER~~ DEVELOPED YES ✓ NO ___

WELL CONSTRUCTION



A = 10.97'

B = 7.0'

C = 2.59' CASING

D = 0.166'

NOTES
5' SCREEN LENGTH

WATER LEVEL RANGE 8.5 - 8.7

ELEVATION OF WELL AT GRADE ___

GROUNDWATER INFORMATION

APPROXIMATE RECHARGE / YIELD ___

WELL SCREEN POSITIONED IN TILL
(i.e. till, clay, rock)

GROUNDWATER MONITORING / SAMPLING DATA

RECOMMENDED TYPE OF EQUIPMENT TO FLUSH WELL ___

RECOMMENDED AMOUNT OF FLUSHING ___

SAMPLING PROCEDURES

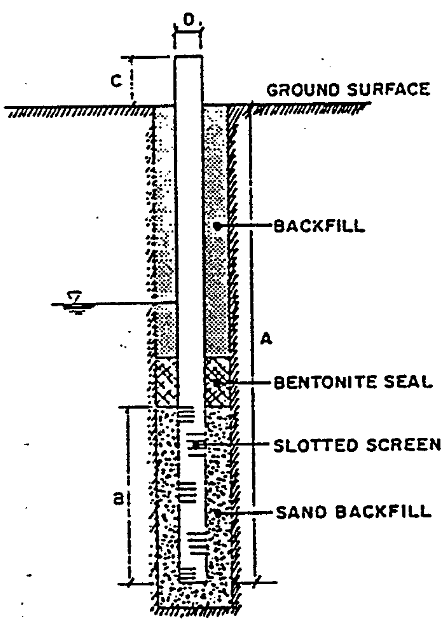
SITE Stewart ANGB JOB NO. 5139-01

MONITORING WELL DESIGNATION UMW -109 INSTALLATION DATE 8/6/87

DIAMETER OF WELL 0.166' MATERIAL SCH. 40 PVC ; 0.010 SLOT SIZE SCREEN

LOCKING PROTECTIVE COVER YES ✓ NO ___ ~~DRILLER~~ E&J DEVELOPED YES ✓ NO ___

WELL CONSTRUCTION



A = 10.25'

B = 7.0'

C = 2.45' CASING

D = 0.166'

NOTES

5' SCREEN LENGTH

WATER LEVEL RANGE 10.05 - 10.12

ELEVATION OF WELL AT GRADE ___

GROUNDWATER INFORMATION

APPROXIMATE RECHARGE/YIELD ___

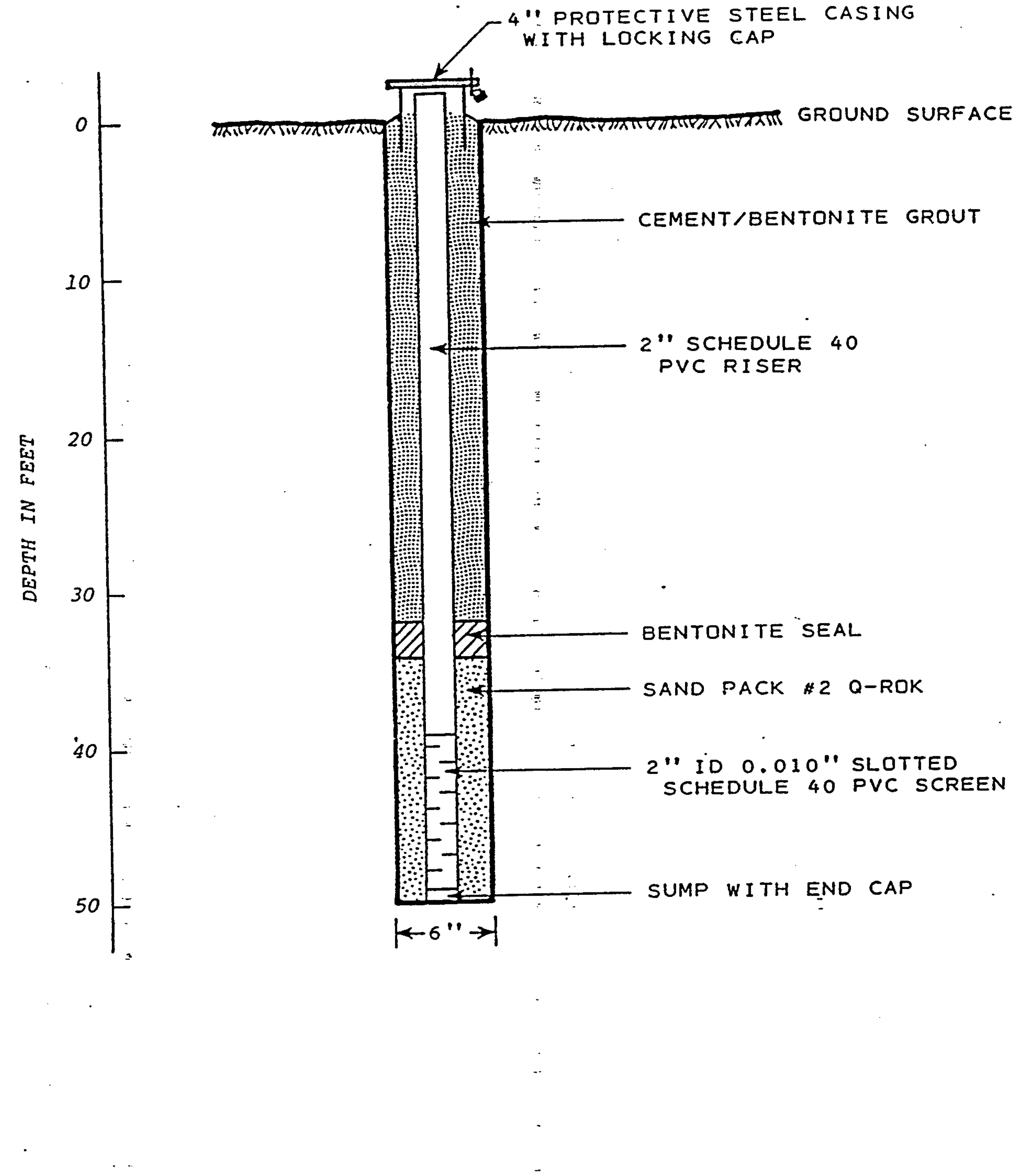
WELL SCREEN POSITIONED IN TILL
(i.e. till, clay, rock)

GROUNDWATER MONITORING/SAMPLING DATA

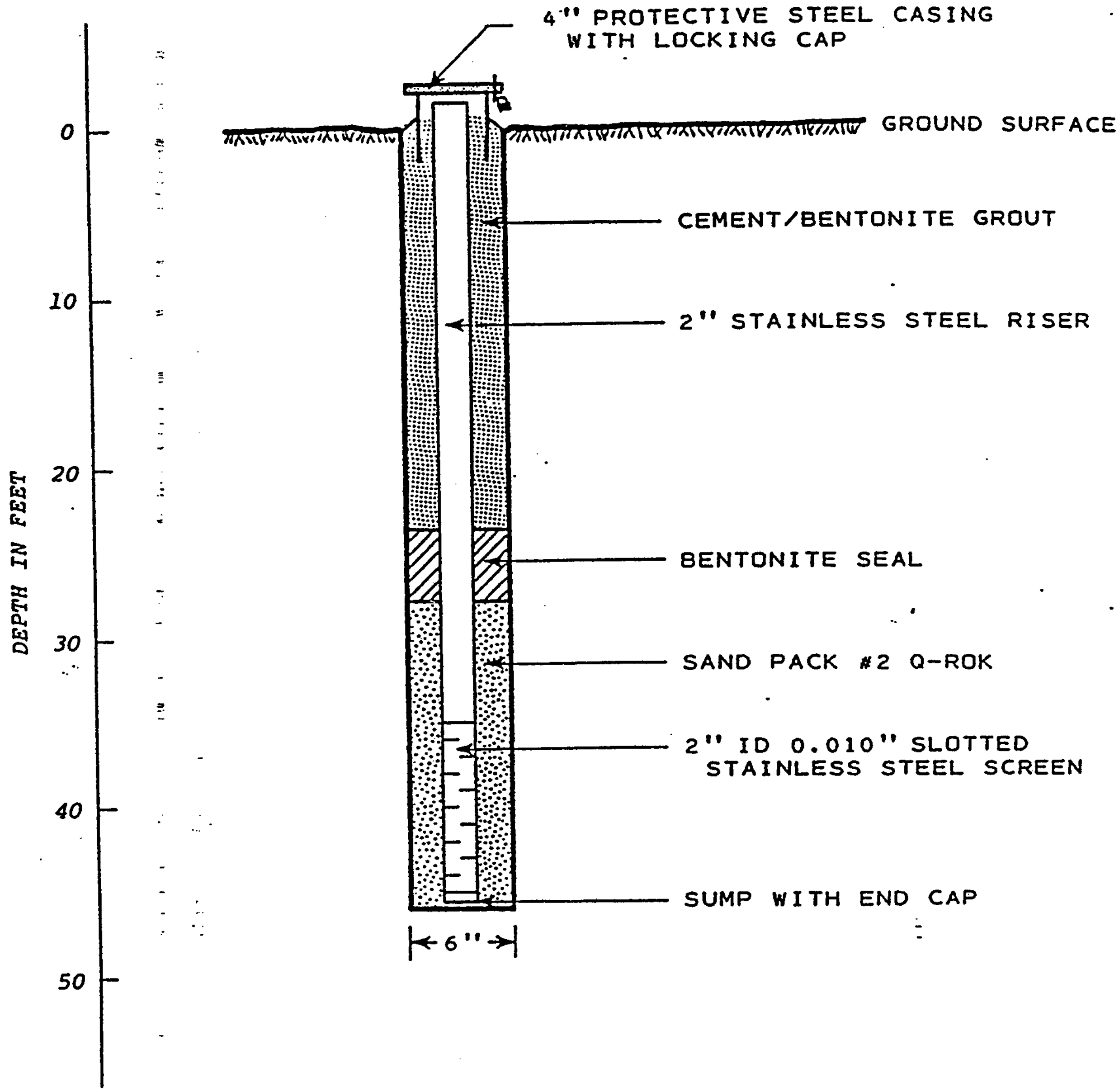
RECOMMENDED TYPE OF EQUIPMENT TO FLUSH WELL ___

RECOMMENDED AMOUNT OF FLUSHING ___

SAMPLING PROCEDURES



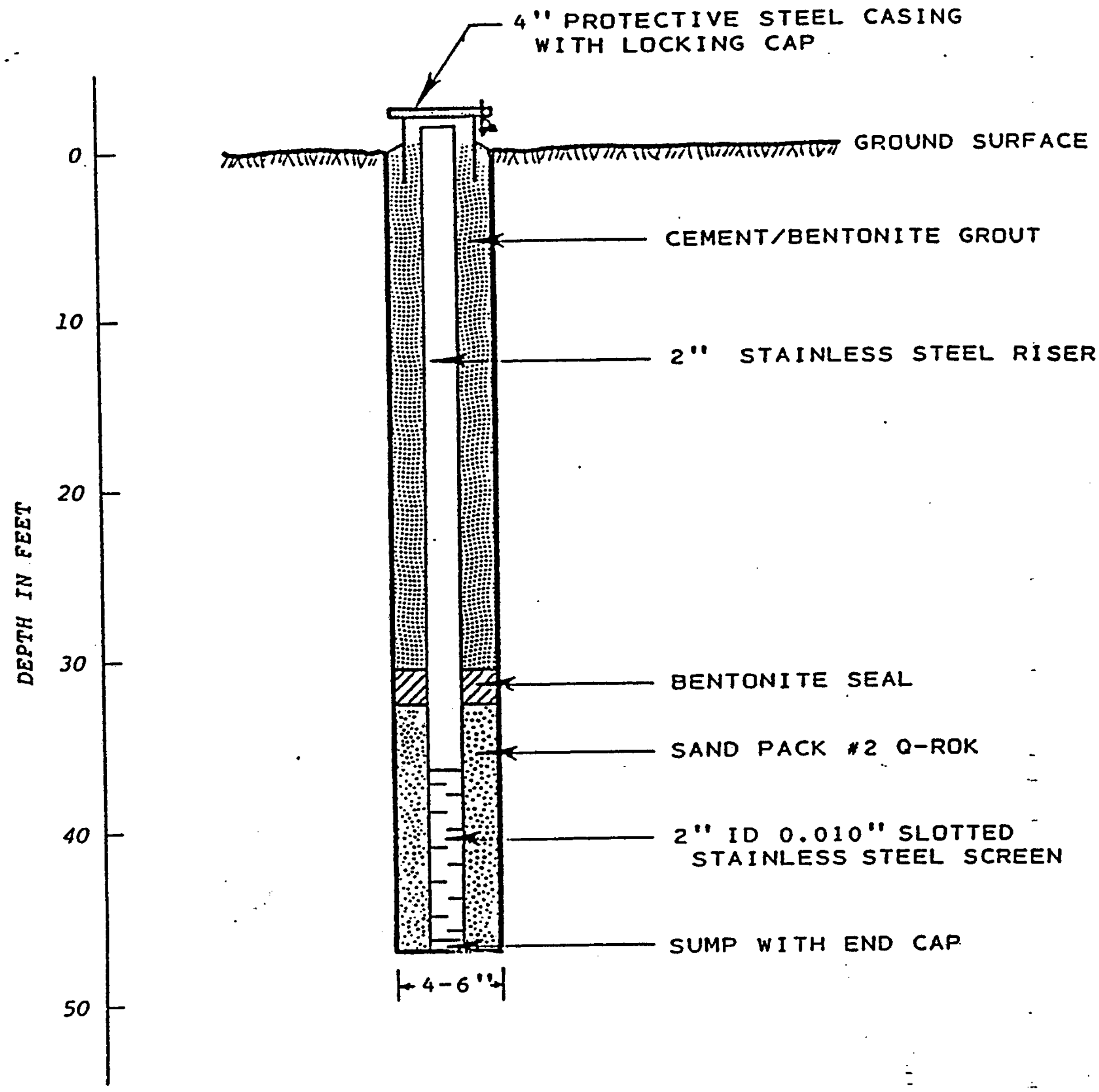
WELL SCHEMATIC
SW-1



WELL SCHEMATIC
SW-2

DAMES & MOORE

FIGURE A-6



WELL SCHEMATIC
SW-3

DAMES & MOORE

FIGURE A-7

APPENDIX B

FIELD CHANGE REQUESTS

FIELD CHANGE REQUEST FORM

1. Field Change No. 1
2. Page 1 of 1

3. PROJECT STEWART ANG BASE - SITE 1
4. PROJECT NUMBER
5. APPLICABLE DOCUMENT

6. DESCRIPTION OF CHANGE:

GROUNDWATER MONITORING WELLS CONSTRUCTED AS 2" DIAMETER WELLS INSTEAD OF 4" WELLS

7. REASON FOR CHANGE:

WELLS TO BE INSTALLED WILL BE CONSISTENT WITH PREVIOUSLY INSTALLED WELLS. ALSO, BOREHOLE FOR 4" WELL NOT PRACTICAL DUE TO TIGHTNESS OF SUBSURFACE MATERIAL.

8. RECOMMENDED DISPOSITION:

9. PRESENT & COMPLETED WORK IMPACT:

ALL GROUNDWATER MONITORING WELLS

10. REQUESTED BY:

Michael [signature] — Field/Project Manager

10/11/96 — Date

11. FINAL DISPOSITION:

12. APPROVAL:

NGB Project Manager

Date

FIELD CHANGE REQUEST FORM

1. Field Change No. 2
2. Page 1 of 1

3. PROJECT Stewart ANG Base - Site 1
4. PROJECT NUMBER
5. APPLICABLE DOCUMENT

6. DESCRIPTION OF CHANGE:

THE TWO PROPOSED GROUNDWATER MONITORING WELLS TO BE INSTALLED UPGRADIENT OF THE LANDFILL WERE NOT INSTALLED (IN THE OVERBURDEN)

7. REASON FOR CHANGE:

OVERBURDEN WAS DRY - NO GROUNDWATER PRESENT

8. RECOMMENDED DISPOSITION:

NONE

9. PRESENT & COMPLETED WORK IMPACT:

TWO OF THE NINE PROPOSED WELLS WERE NOT INSTALLED.

10. REQUESTED BY:

Michael Bland
Field/Project Manager

10/11/96
Date

11. FINAL DISPOSITION:

12. APPROVAL:

NGB Project Manager

Date

FIELD CHANGE REQUEST FORM

1. Field Change No. 3
2. Page 1 of 1

3. PROJECT STEWART ANG BASE - SITE 1
4. PROJECT NUMBER
5. APPLICABLE DOCUMENT

6. DESCRIPTION OF CHANGE:

AN ADDITIONAL WELL PAIR IS TO BE INSTALLED TO THE SOUTH OF THE LANDFILL

7. REASON FOR CHANGE:

UPON REVIEWING GROUNDWATER ELEVATION DATA. GROUND WATER APPEARS TO FLOW RADIALLY UNDER CERTAIN PORTIONS OF THE LANDFILL.

8. RECOMMENDED DISPOSITION:

9. PRESENT & COMPLETED WORK IMPACT:

AN ADDITIONAL WELL PAIR, MW-14 AND MW-15 HAVE BEEN INSTALLED

10. REQUESTED BY:

Michael Klund
Field/Project Manager

10/11/96
Date

11. FINAL DISPOSITION:

12. APPROVAL:

NGB Project Manager

Date

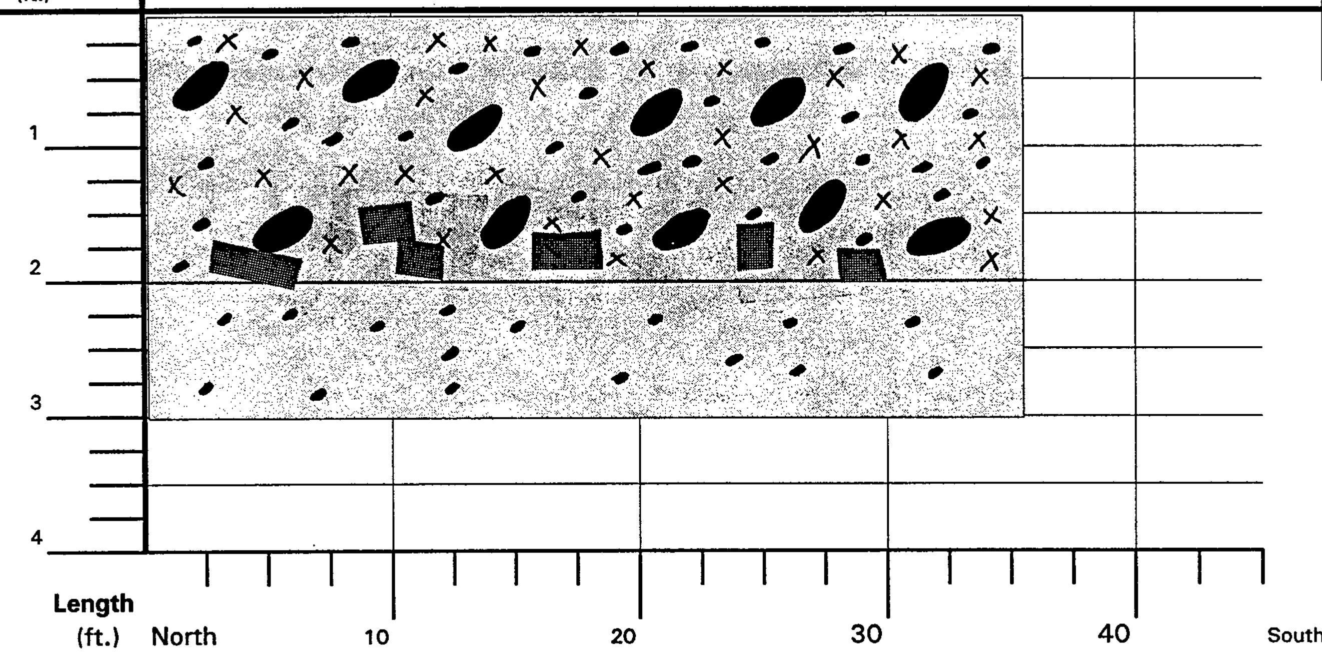
APPENDIX C

TEST PIT LOGS

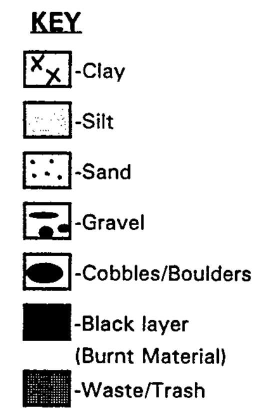
ANEPTEK CORPORATION Test Pit Log	Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-T1	Page 1 of 1
		Location: Northwest of landfill on lawn	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	John Deer	9 /20 /95 1700/1800	35 x 2 x 3
Logged By:	Weather & Temperature:	Screening Device (Type, make, model):	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG



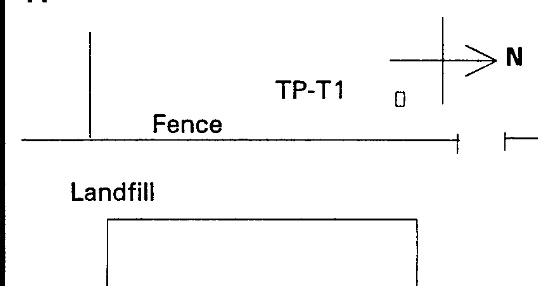
Soil Description

0-2 ft. Brown clayey SILT, some f.-c. gravel, some cobbles, few boulders
2-3 ft. Grey layer- compacted SILT ,platey, breakable by hand f. gravel in layer

Waste Description

1.5-2 ft- Large piece of metal, wood, one C battery, coke cans (tab pull top) white plastic bags (charateristic of other pits), stockings, one brick, metal pipe

Approximate Test Pit Location:



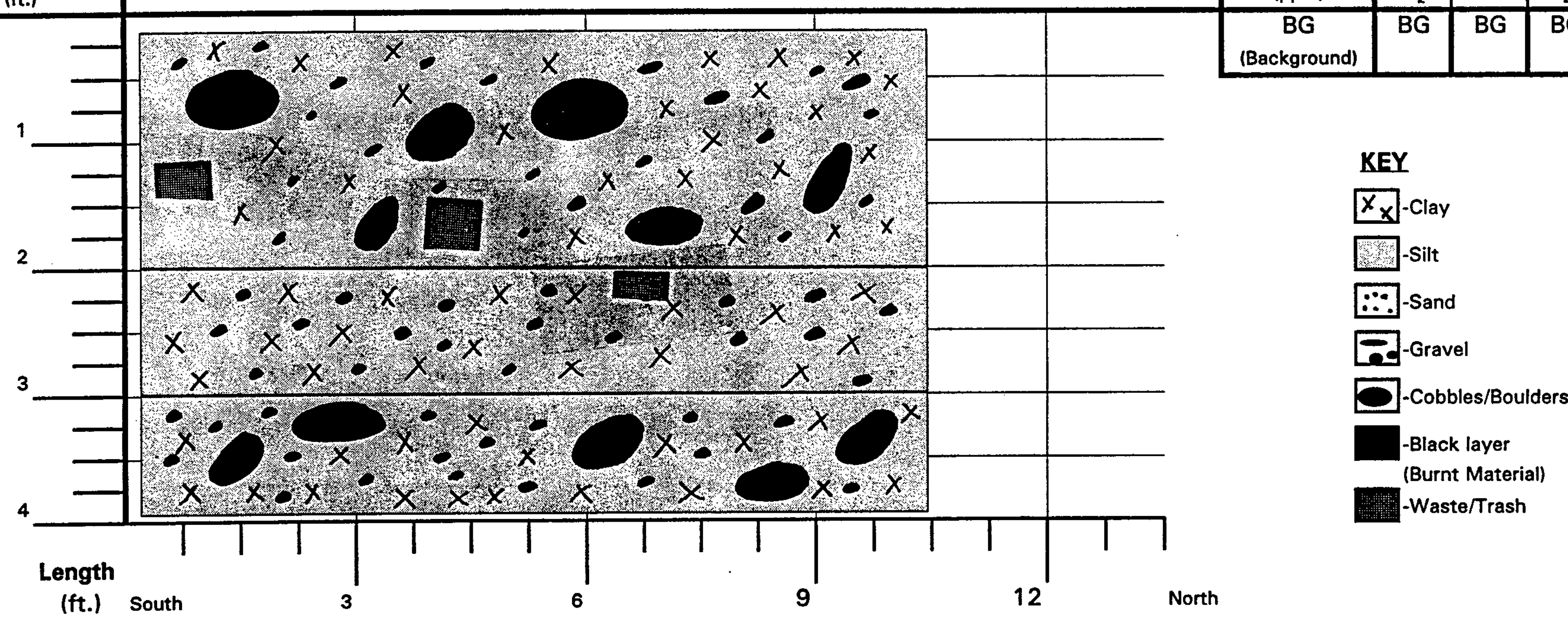
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-T2	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	North west of landfill on lawn	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	John Deer	9 /20 /95 1800/1815	10 x 2 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Depth (ft.) — **Location of Landfill Waste**



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

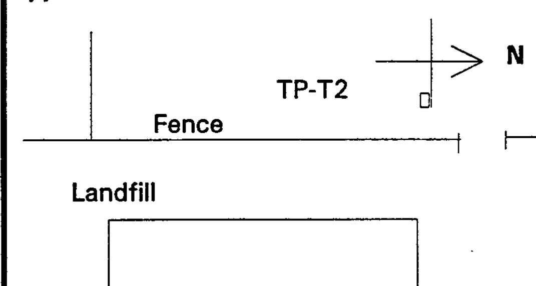
Soil Description

0-2 ft.	Brown clayey SILT, some f.-c. gravel, some cobbles, few boulders
2-3 ft.	Grey layer- compacted SILT and clay, f. gravel,platey, breakable by hand
3-4 ft.	Brown clayey SILT, some f.-c. gravel, some cobbles, few boulders

Waste Description

1.5-2 ft- Metal, two tiny pieces of pottery, piece of styrofoam cup, layer of grey has white paper

Approximate Test Pit Location:



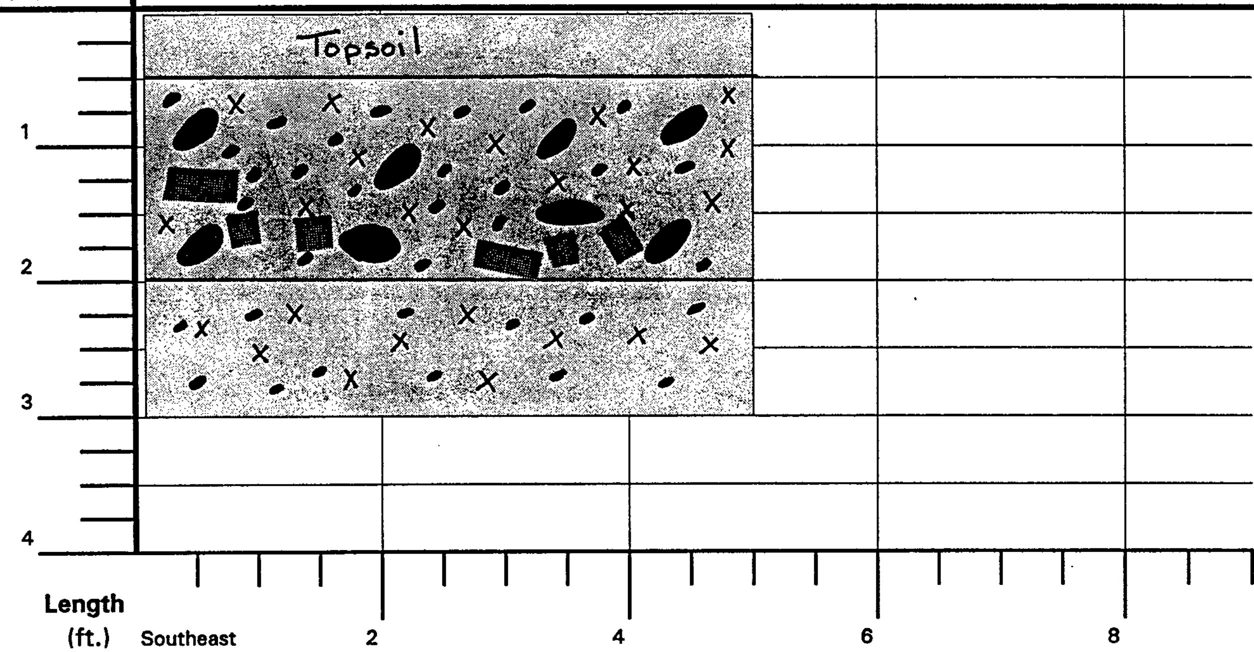
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	Page 1 of 1
ANGR/Stewart ANG Newburgh, N.Y.	TP-T3	
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	Northwest of landfill (just south of covert)	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1815/1830	5 x 2 x 3
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Depth (ft.) — **Location of Landfill Waste**



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

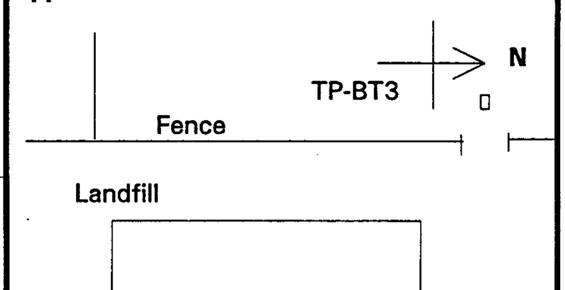
Soil Description

0-0.5 ft. Topsoil
1.5-2 ft. Tan clayey SILT, some f.-c. gravel, some cobbles, few boulders
2-3 ft. Grey layer- Compacted wet SILT, some clay, some f. gravel, platey

Waste Description

1.5-2 ft. Metal, soda can, piece of glass, asphalt, shingles, blue plastic

Approximate Test Pit Location:



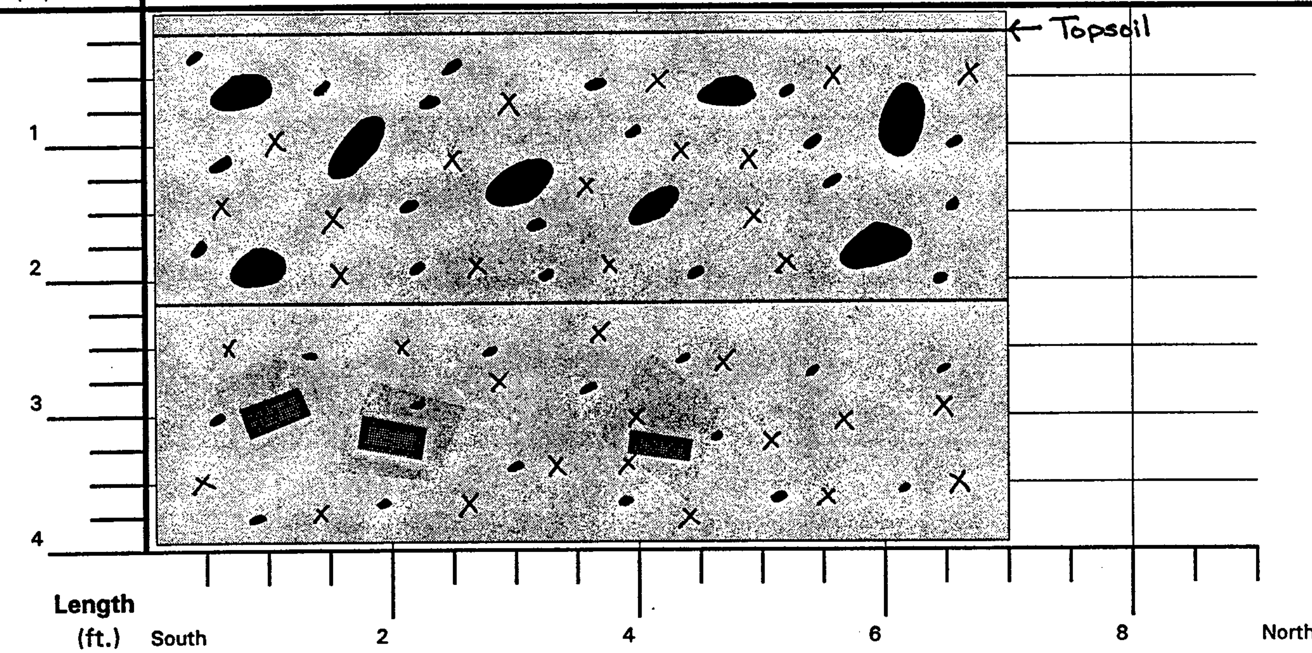
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-T4	
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill outside of fence, west of road	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x H (feet):
East Coast	John Deer	9 /21 /95 1725/1750	7 x 3 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

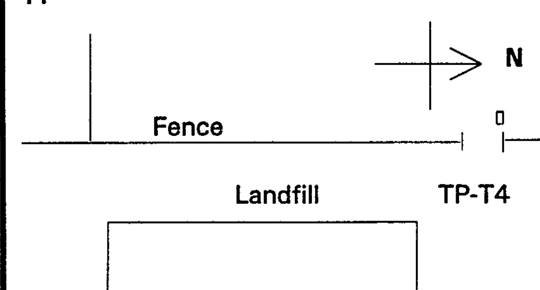
Soil Description

0-0.2 ft	Topsoil
0.2-2.2 f	Brown clayey SILT, some f.-c. gravel, some cobbles, some boulders
2.2-4 ft	Grey layer- more compacted than brown layer, SILT, some clay, with pieces of slate or shale

Waste Description

3 ft. Plastic bag "Napkins", wood and metal debrie

Approximate Test Pit Location:



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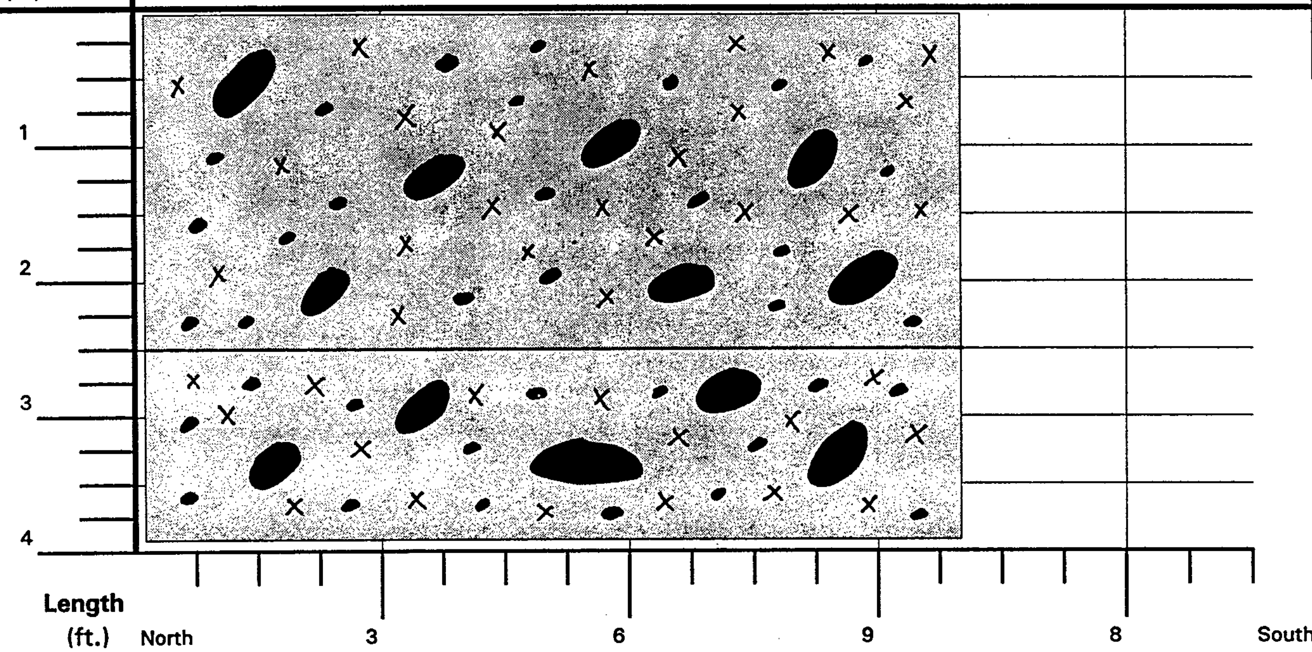
ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	Page 1 of 1
ANGR/Stewart ANG Newburgh, N.Y.	TP-T5	
Landfill Closure Site Investigation Site 1	**Location:**	
DAHA-90-93-D-003-DO-0008	West of landfill, west side of road, north of covert	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x H (feet):
East Coast	John Deer	9 /21 /95 1750/1815	10 x 3 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



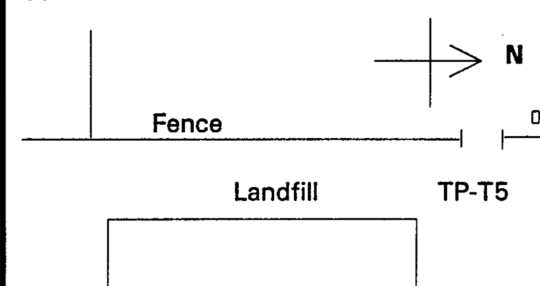
FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	0-2.5 ft. Light brown clayey SILT, some f.-c. gravel, some cobbles, some boulders 2.5-4 ft Dark brown clayey SILT, some f.-c. gravel, some cobbles, some boulders
Waste Description	None

Approximate Test Pit Location:



ANEPTEK CORPORATION
Test Pit Log

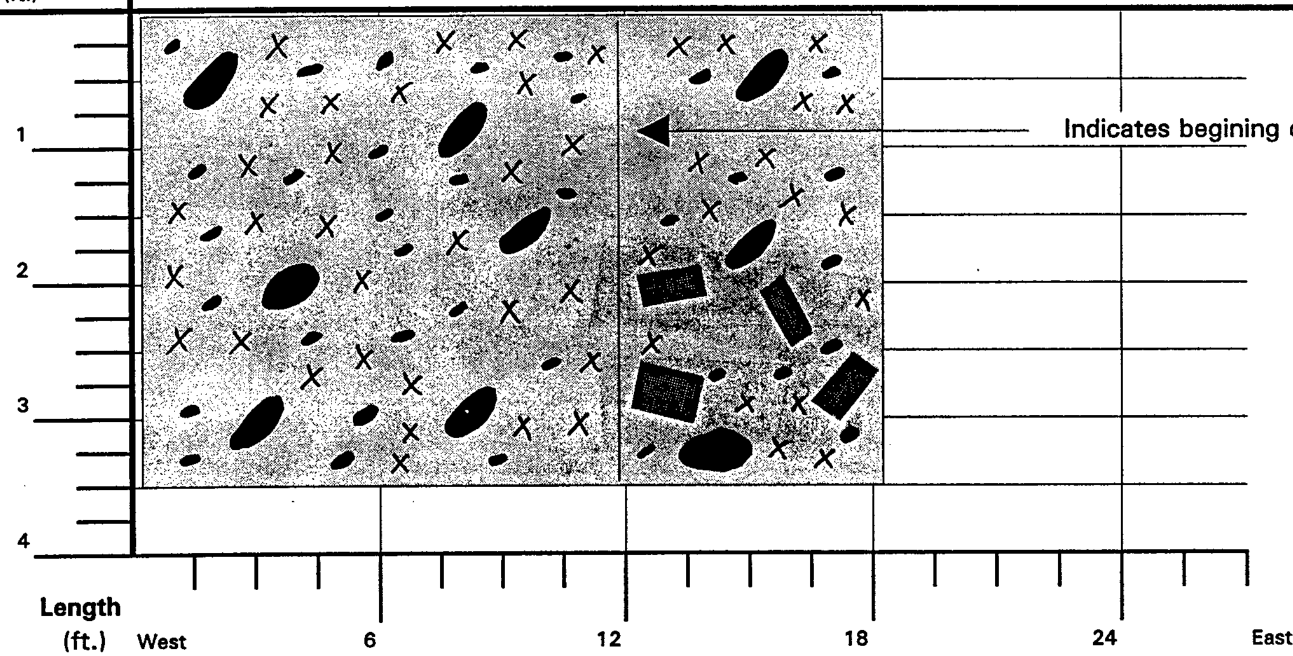
Client/Project/Contract No.:	Test Pit No.:
ANGR/Stewart ANG Newburgh, N.Y.	TP-T6
Landfill Closure Site Investigation Site 1	Location:
DAHA-90-93-D-003-DO-0008	West of landfill on lawn, north of ball field

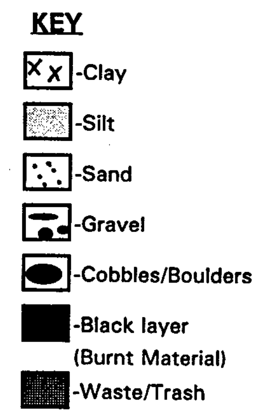
Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	John Deer	9 /21 /95 1815/1845	10 x 3 x 4
Logged By:	Weather & Temperature:	Screening Device (Type, make, model):	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

FID (ppm)	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

Air Monitoring

Location of Landfill Waste





Soil Description

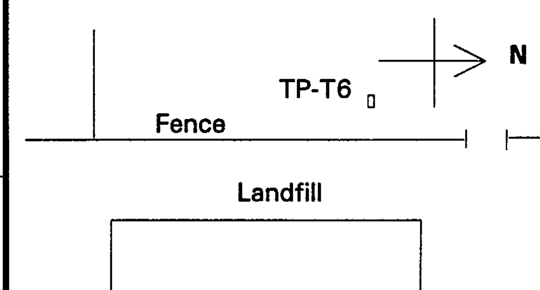
0-4 ft Brown clayey SILT, some f.-c. gravel, some cobbles, few boulders

Waste Description

2 ft bgs (12 ft East) Beginning of waste- Pants, beer cans

Beginning of waste conincides with EM Survey and scape in ground

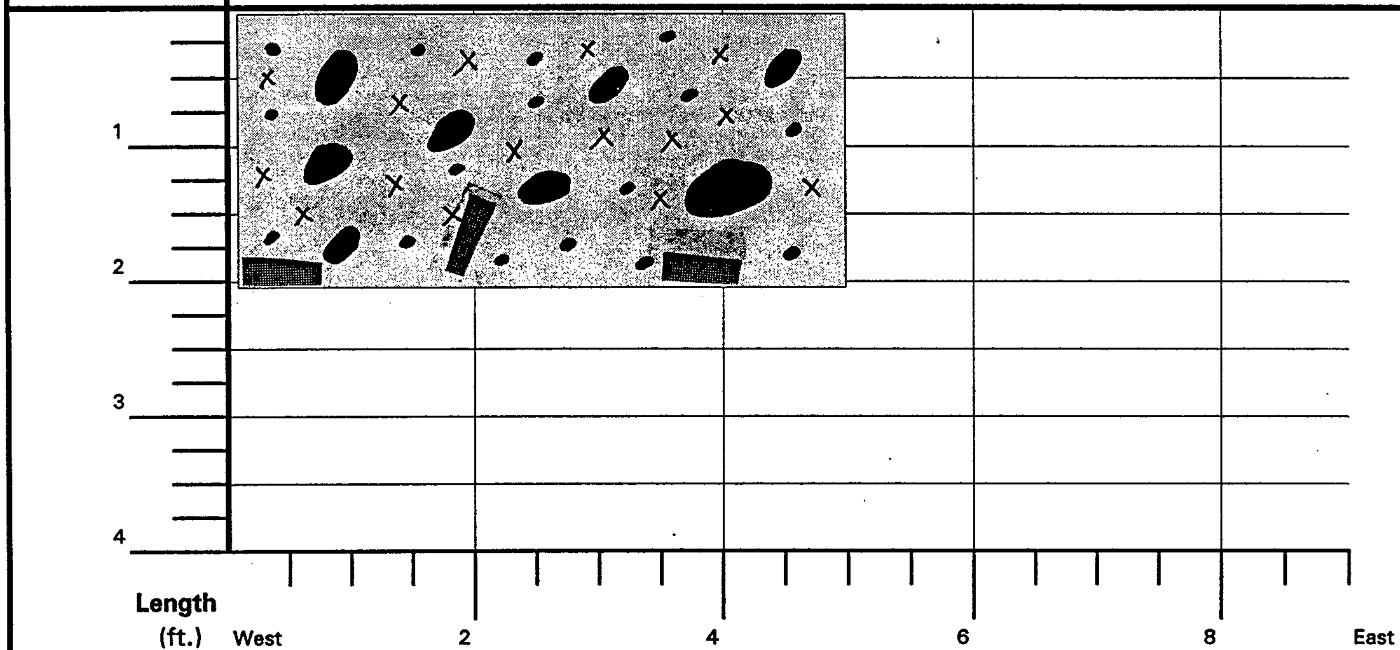
Approximate Test Pit Location:



ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-T7		
Location: West of landfill on lawn, north of ball field			
Excavation Contractor: East Coast	**Excavator Make/Model:** John Deer	**Date/Time Started/Finished** 9 /22 /95 0800/0810	**Dimensions L x W x H (feet):** 5 x 3 x 2
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Cloudy 60's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



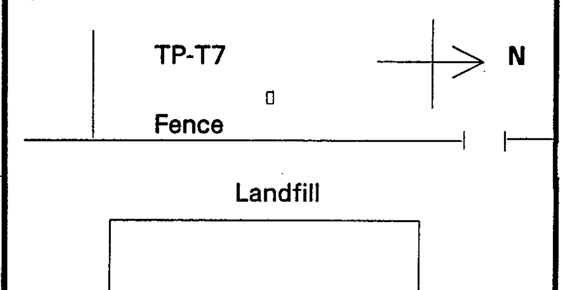
FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	0-2 ft	Brown clayey SILT, some f.-c. gravel, some cobbles, few boulders
	2 ft.	Grey layer bottom of pit- Compacted SILT, some clay, f. gravel, platey breakable by hand
Waste Description	2 ft.	Soda cans, plastic toy car, glass, paper

Approximate Test Pit Location:



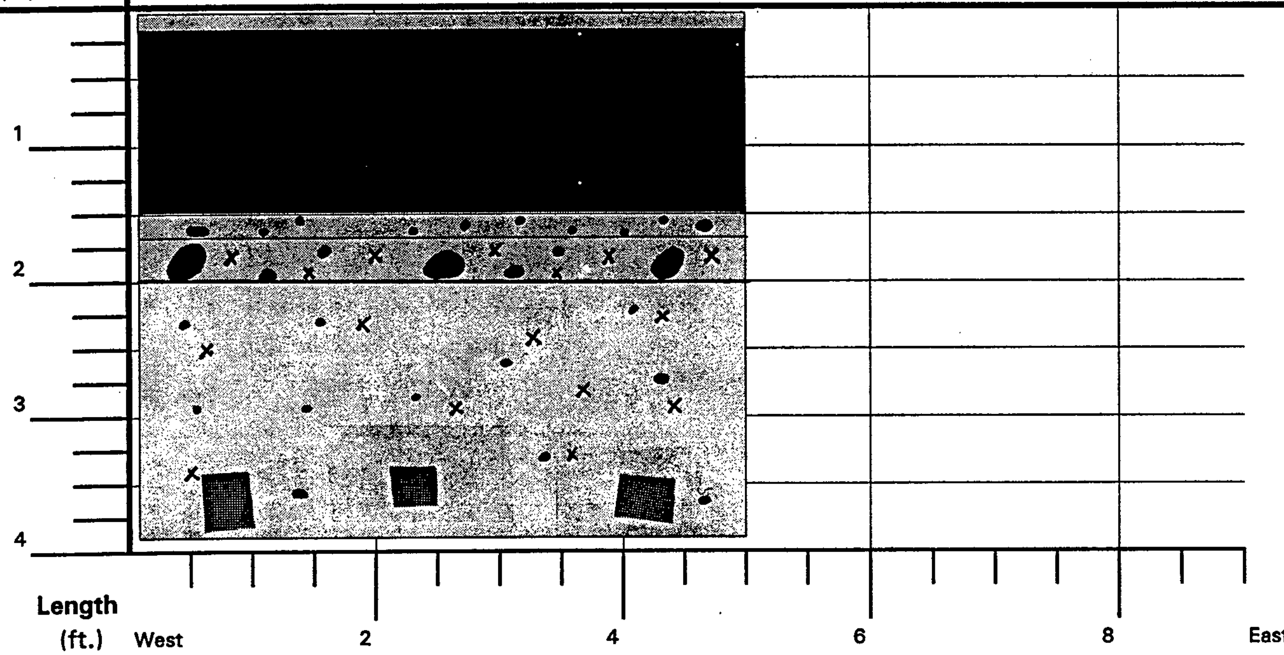
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-T8	
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill on lawn, north of ball field	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	John Deer	9 /22 /95 0800/0810	5 x 3 x 4
Logged By:	Weather & Temperature:	Screening Device (Type, make, model):	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

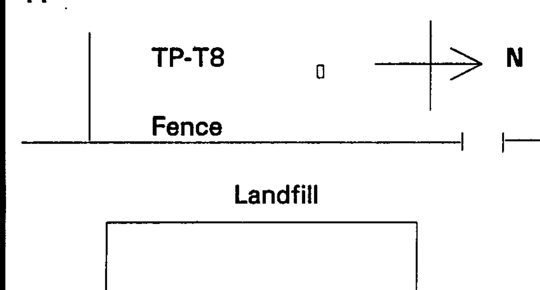
Soil Description

0-0.1 ft	Topsoil
0.1-1.5 f	Black layer- Compacted similar to burnt material, contains gravel
1.5-1.7 f	Tan SILT, and f.-c. gravel
1.7-2.0 f	Orange-brown clayey SILT, some f.-c. gravel, some cobbles, few boulders
2-4 ft.	Grey layer bottom of pit- Compacted SILT, some clay, f. gravel, platey breakable by hand

Waste Description

2 ft. bgs- (20 ft east)- Soda cans wood

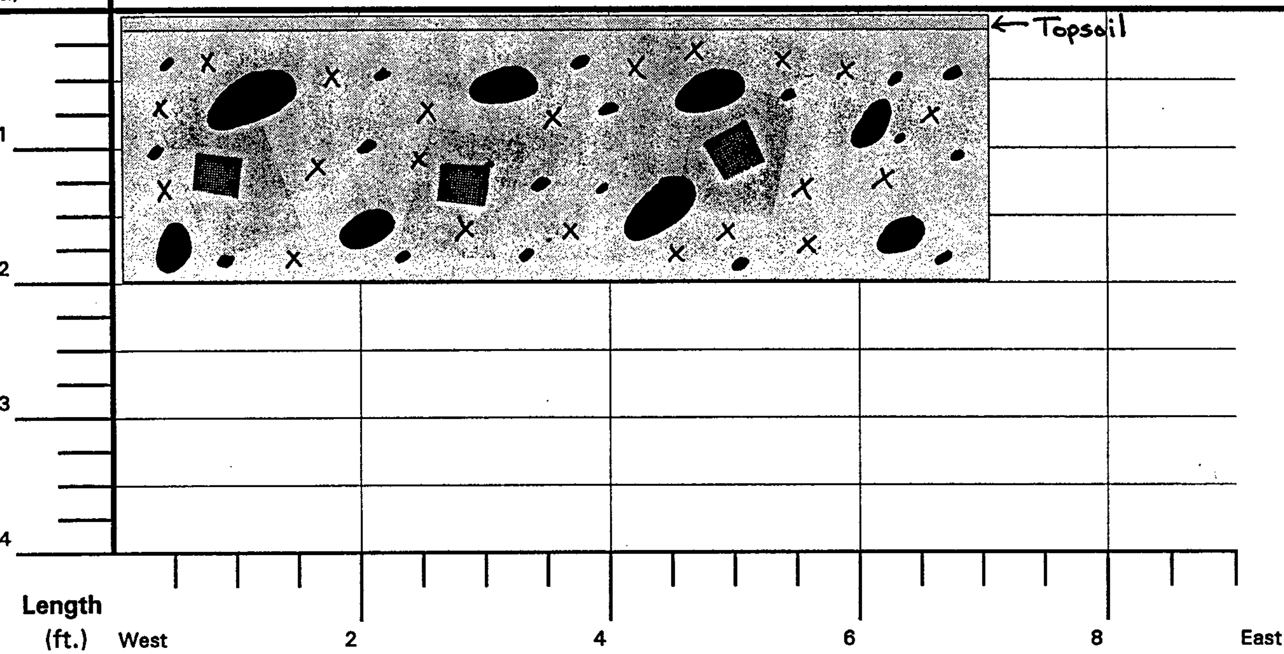
Approximate Test Pit Location:



ANEPTEK CORPORATION **Test Pit Log**	**Client/Project/Contract No.:** ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-T9	**Page 1 of 1**
		Location: West of landfill on lawn near south fence	

Excavation Contractor:	**Excavator Make/Model:**	**Date/Time Started/Finished**	**Dimensions L x W x D (feet):**
East Coast	John Deer	9 /22 /95 0850/0915	7 x 3 x 2.0
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Sunny 60's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Depth (ft.) — **Location of Landfill Waste**



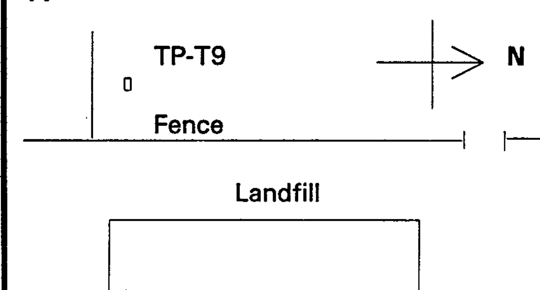
FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	0-0.1 ft	Topsoil
	0.1-2.0 f	Tan well graded SILT , and f.-c. GRAVEL, some cobbles, some clay,
Waste Description	1.5 ft.	Cloth, plastic garbage bag pieces, wood, paper

Approximate Test Pit Location:



ANEPTEK CORPORATION

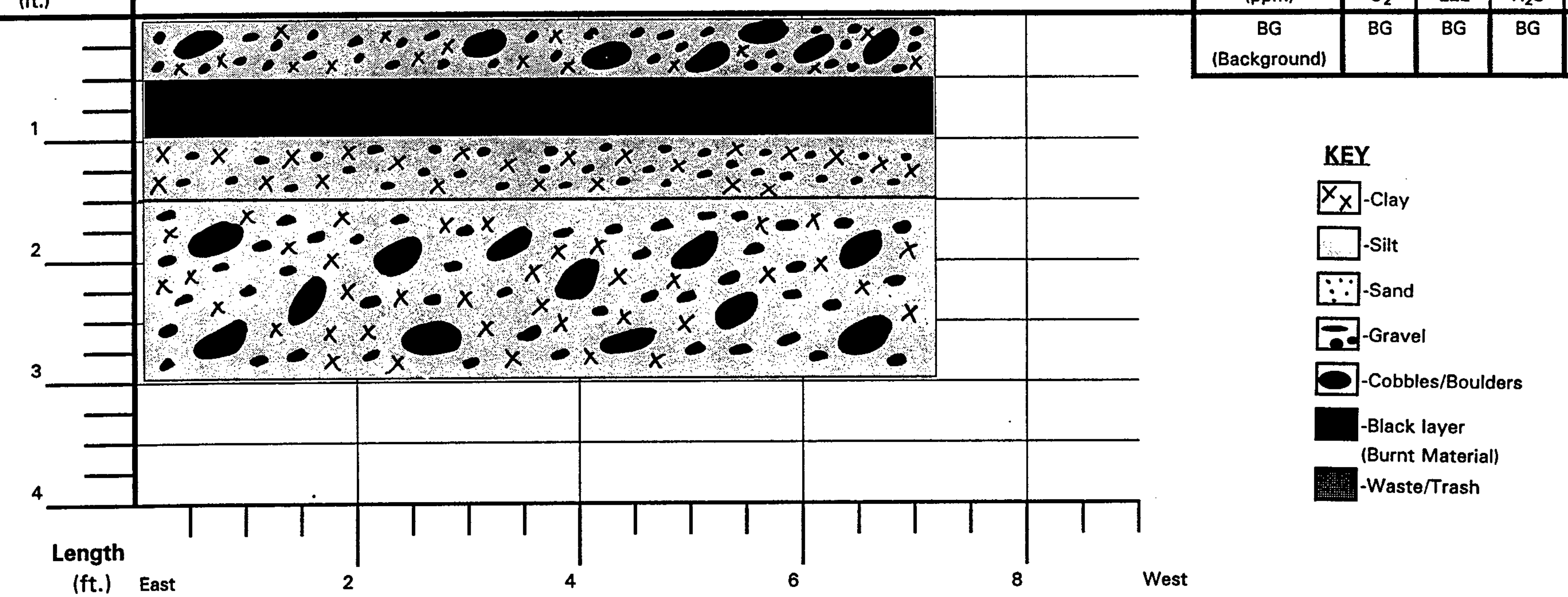
Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-T10	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	John Deer	9 /22 /95 0915/0930	7 x 2 x 3
Logged By:	Weather & Temperature:	Screening Device (Type, make, model):	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

Location of Landfill Waste



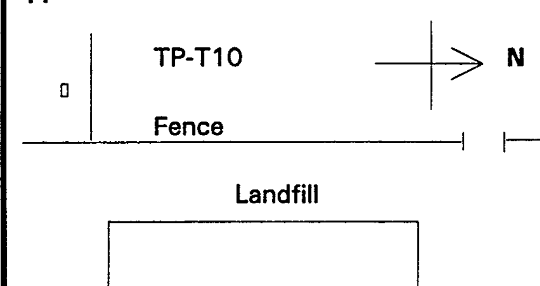
Soil Description

Surface — Asphalt
0-0.5 ft. — Brown well graded SILT , and f.-c. GRAVEL, some cobbles, some clay,
0.5-1 ft. — Black layer- compacted, looks like burnt material (coal ash or slag)
1-1.5 ft. — Grey-green layer- compacted, platey, SILT, some clay, some fine gravel
1.5-3 ft. — Orange-brown well graded SILT , and f.-c. GRAVEL, some cobbles, some clay,
All layers very compacted

Waste Description

None

Approximate Test Pit Location:



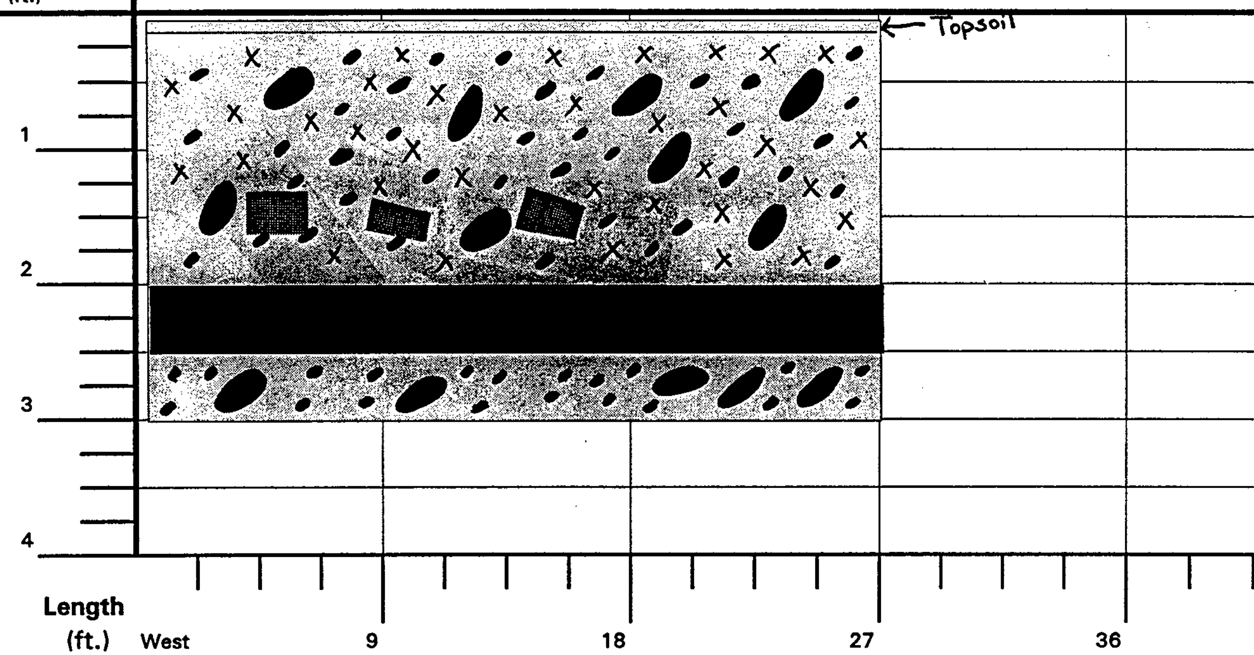
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-T1A	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill on lawn near south fence	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	John Deer	9 /19 /95 1445/1530	27 x 3 x 3
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

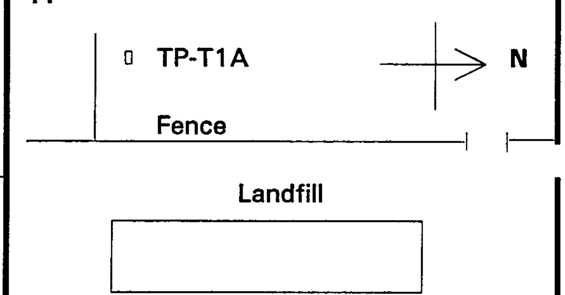
Soil Description

0-0.1 ft	Topsoil	
0.1-2.0 f	Tan well graded SILT , and f.-c. GRAVEL, some cobbles, some clay,	
2-2.5 ft	Black layer- compacted, looks like burnt material (coal ash or slag) has piecse that resemble coal (black, shinny) more likely burnt material	
2.5-3 ft	Tan well graded SILT , and f.-c. GRAVEL, some cobbles, some clay,	

Waste Description

1.5 ft. Coke cans, scraps of concrete

Approximate Test Pit Location:



P11A

10/20/95 11:09 AM

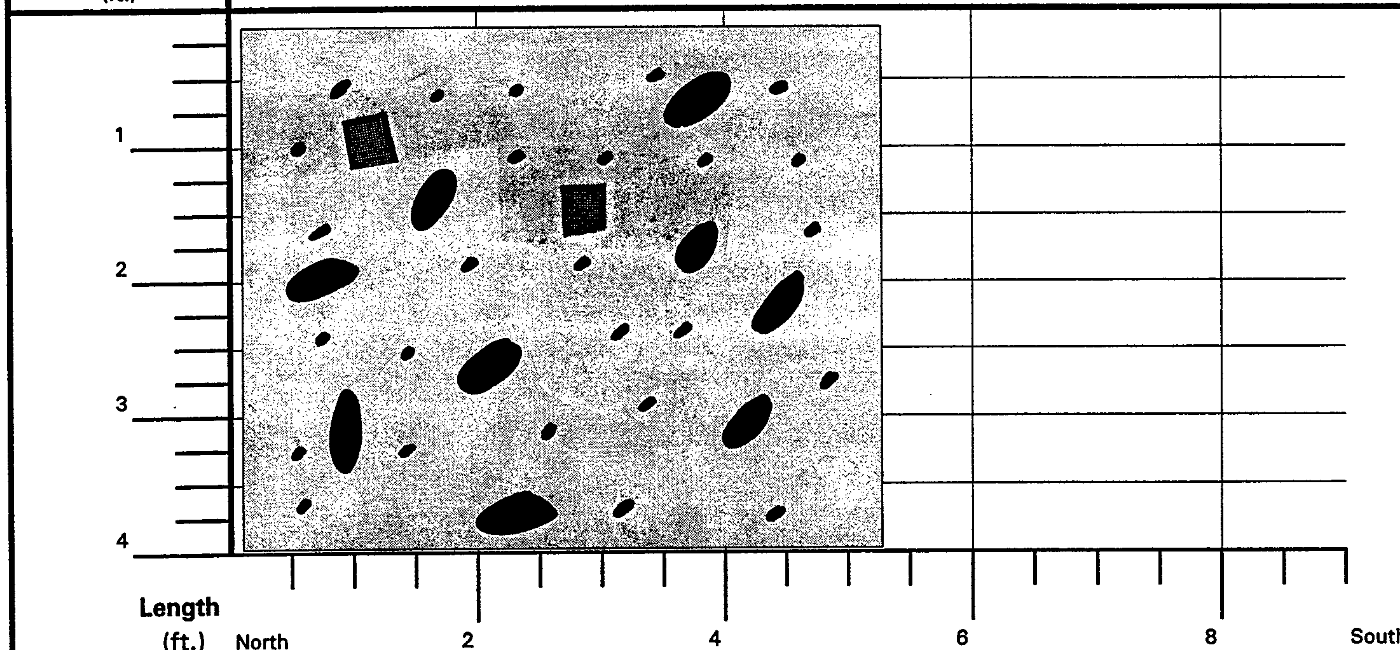
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-F1	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1145/1200	5 x 2 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



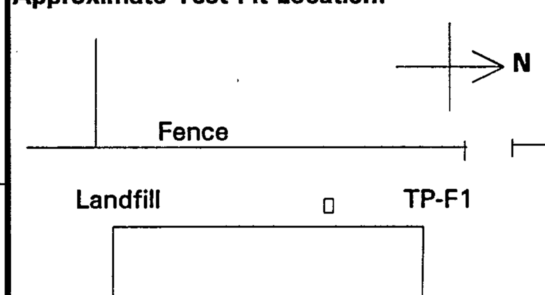
FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	0-4 ft. Brown, well graded SILT and m.-c. GRAVEL some cobbles (fill) Well developed roots 0-1 ft.
Waste Description	1.0 ft- Paper 1.0-1.5 ft- Wood

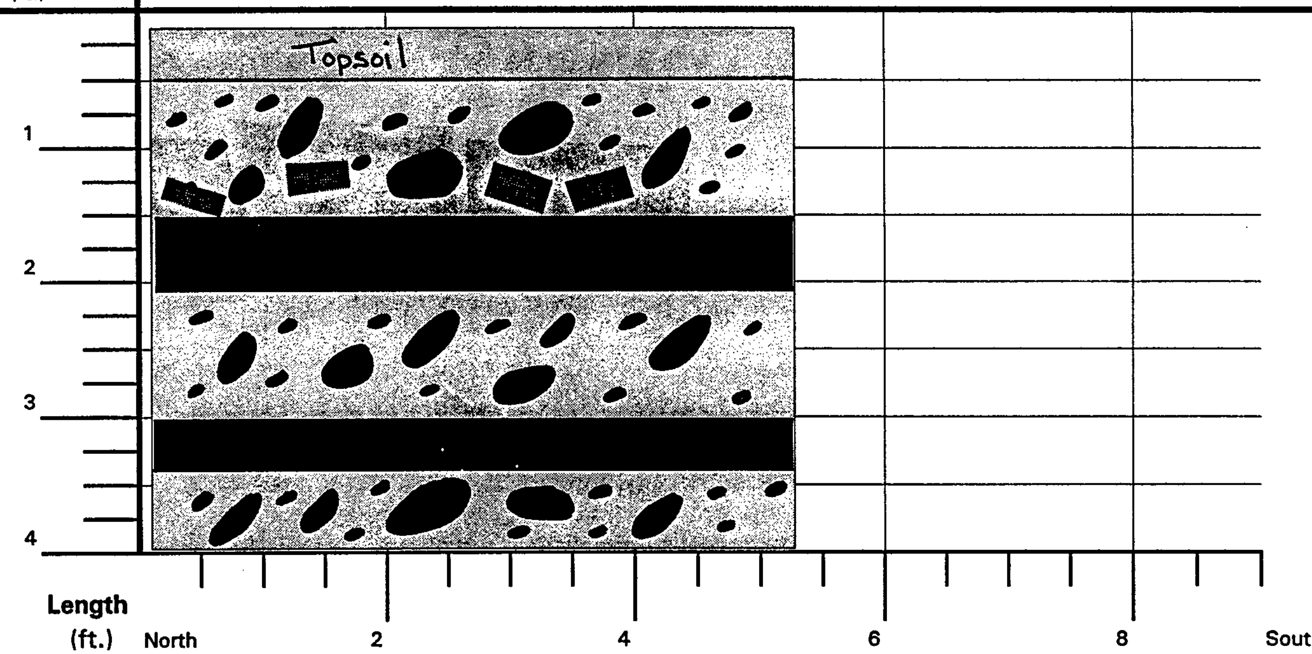
Approximate Test Pit Location:



ANEPTEK CORPORATION Test Pit Log	Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-F2	Page 1 of 1
		Location: West of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1205/1245	5 x 2 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

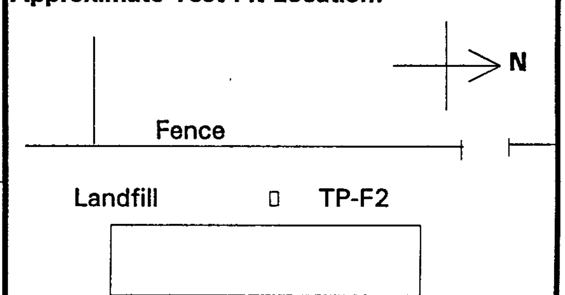
Soil Description

0-0.5 ft	Topsoil
0.5-1.5 f	Brown, well graded SILT and m.-c. GRAVEL some cobbles
1.5-1.9 f	Black layer- compacted, burnt material, platey shinny, decayed organics
2-3 ft	Brown, well graded SILT and m.-c. GRAVEL some cobbles
3-3.4 ft	Black layer- compacted, burnt material, platey shinny, decayed organics
3.4-4 ft	Brown, well graded SILT and m.-c. GRAVEL some cobbles

Waste Description

1.0-1.5 ft- Wood fragments, glass, coke can, piece of plastic

Approximate Test Pit Location:

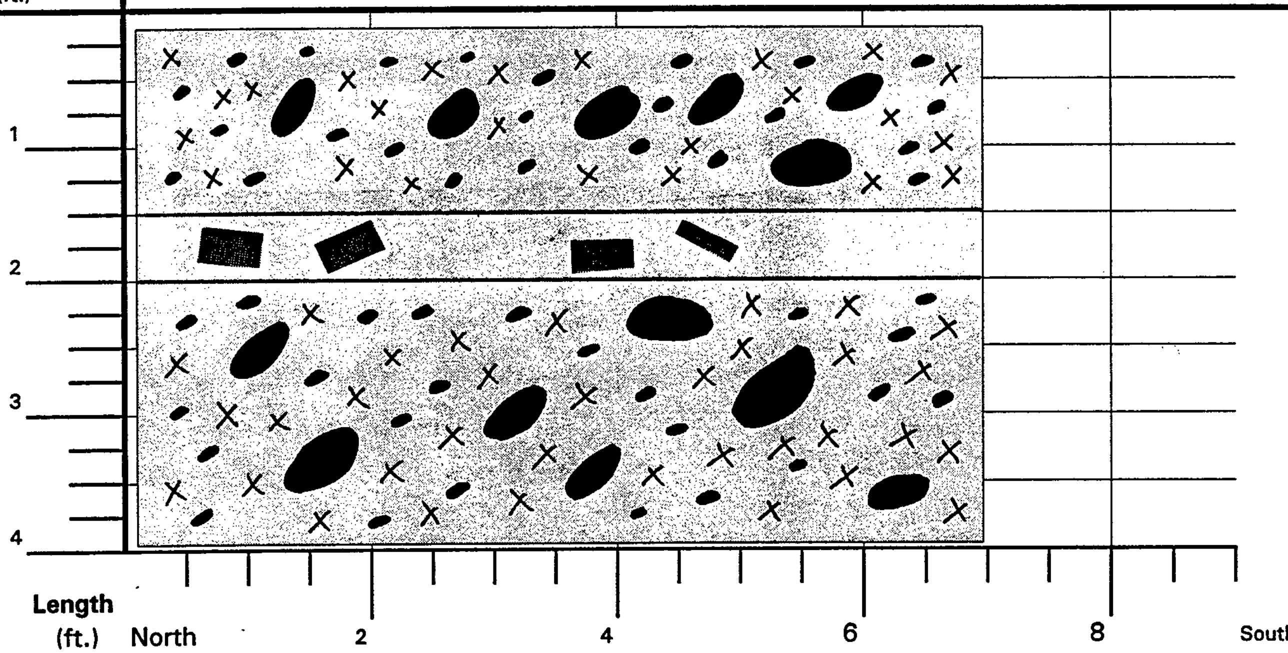


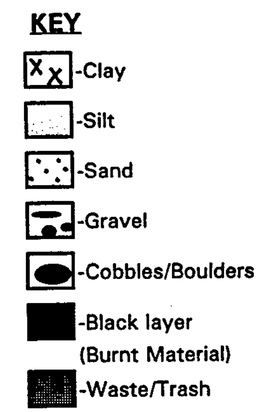
ANEPTEK CORPORATION Test Pit Log	Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-F3	Page 1 of 1
		Location: West of landfill, inside of fence	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1430/1500	7 x 2 x 4
Logged By:	Weather & Temperature:	Screening Device (Type, make, model):	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Depth (ft.) — **Location of Landfill Waste**

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

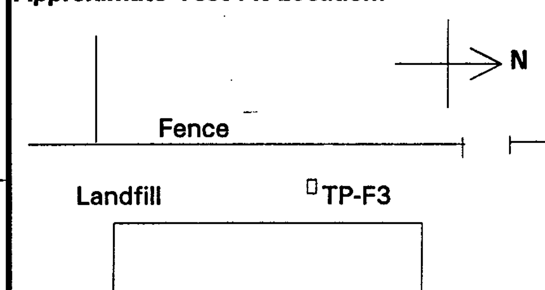




Soil Description

0-1.5 ft. Brown clayey SILT and f.-c. GRAVEL, cobbles, few boulders
1.5-2 ft. Grey layer- compacted SILT, platety, breakable by hand (trash in this layer)
2-4 ft. Brown clayey SILT and f.-c. GRAVEL, cobbles, few boulders

Approximate Test Pit Location:



Waste Description

1.5 ft. Coke can (flatten, could be chared) and small pieces of wood, paper, cloth scrapes and chuncks of glass

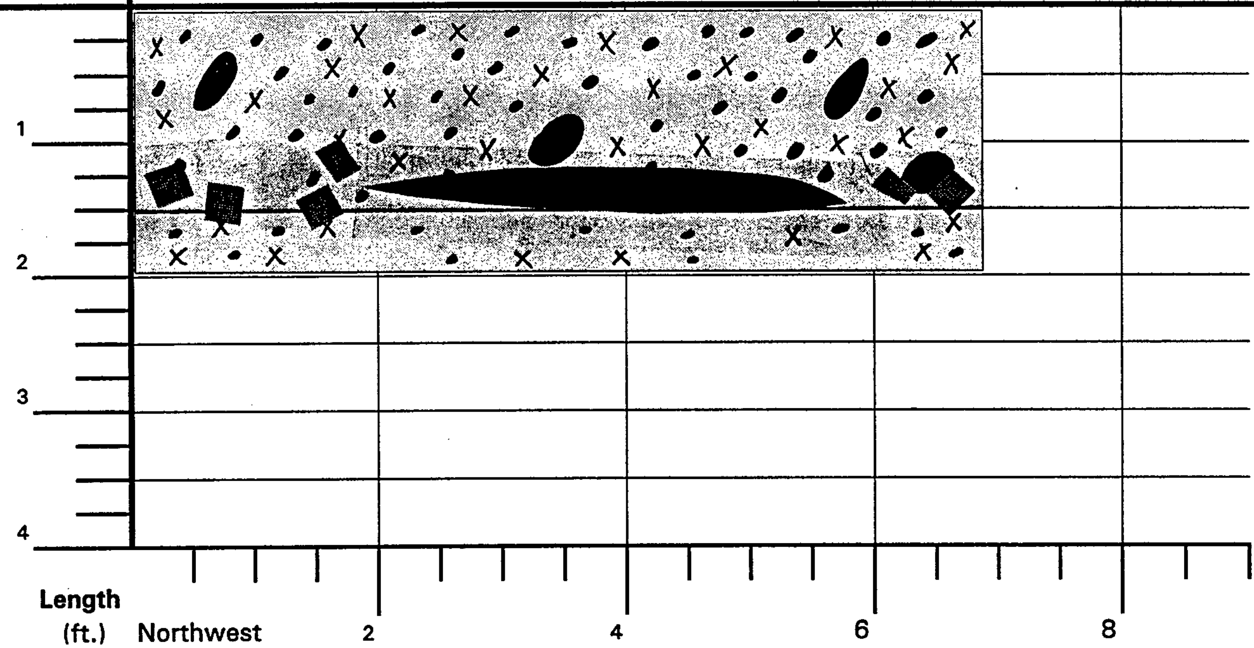
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-F4	
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1530/1545	7 x 2 x 2
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- -Clay
- -Silt
- -Sand
- -Gravel
- -Cobbles/Boulders
- -Black layer (Burnt Material)
- -Waste/Trash

Soil Description

0-1.5 ft. Brown to tan clayey SILT and f.-c. GRAVEL, cobbles, few boulders- roots to 1 ft

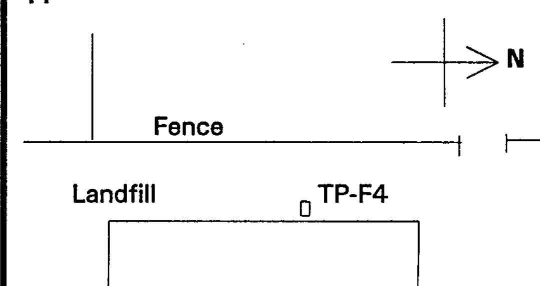
1.5-2 ft. Grey green layer- compacted, SILT, some clay, f. gravel, platety, breakable by hand (smells like sewage sludge)

1.4 ft. Lens of black material- looks like burnt material/ash

Waste Description

1.5 ft. Coke can (flatten, could be chared) and small pieces of wood, paper, cloth scrapes and chuncks of glass, bricks, newpaper (preserved indicates ~~anaerobic~~ Dry conditions)

Approximate Test Pit Location:



ANEPTEK CORPORATION

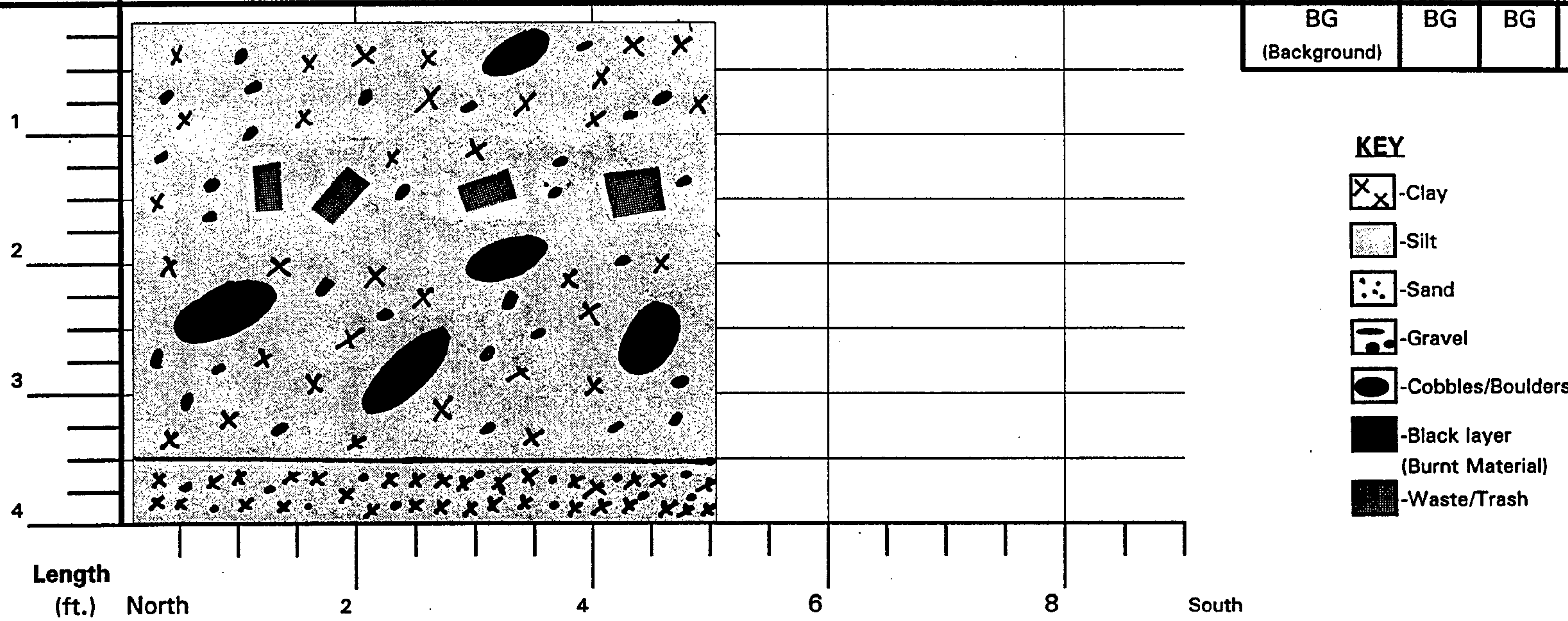
Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-F5	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1545/1600	5 x 2 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

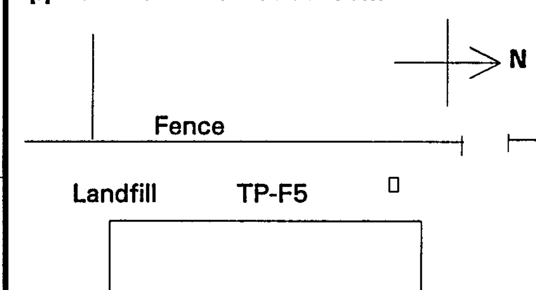
FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

Location of Landfill Waste



Soil Description	0-3.5 ft. Brown clayey SILT and f.-c. GRAVEL, cobbles, few boulders 3.5-4 ft. Grey green layer- compacted, SILT and CLAY,platety, breakable by hand, f. gravel Smells like sewage sludge
Waste Description	1.5 ft. Coke cans and small pieces of wood fragments, tree debrie paper, rags bricks, scapes of metal

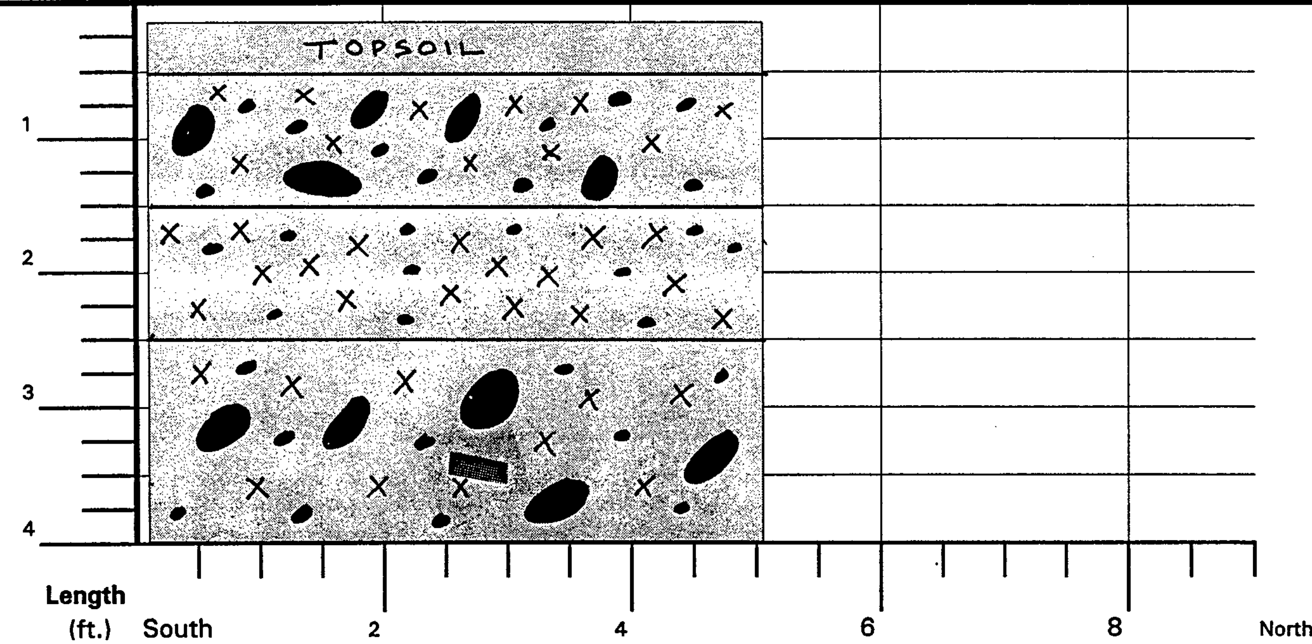
Approximate Test Pit Location:



ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-F6		
	Location: West of landfill		
Excavation Contractor: East Coast	**Excavator Make/Model:** TAKEUCHI	**Date/Time Started/Finished** 9 /20 /95 1600/1630	**Dimensions L x W x D (feet):** 5 x 2 x 4
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Sunny 70's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

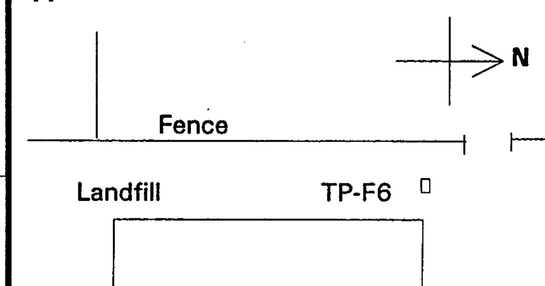
Soil Description

0-0.5 ft. Topsoil
0.5-1.5 f Tan clayey SILT and f.-c. GRAVEL some cobbles
1.5-2.5 f Grey layer- SILT, some clay, f. gravel,compacted ,platey, breakable by hand, similar to other grey layers
2.4-4.0 f Tan clayey SILT and f.-c. GRAVEL some cobbles

Waste Description

3.5 ft. One small tree branch

Approximate Test Pit Location:

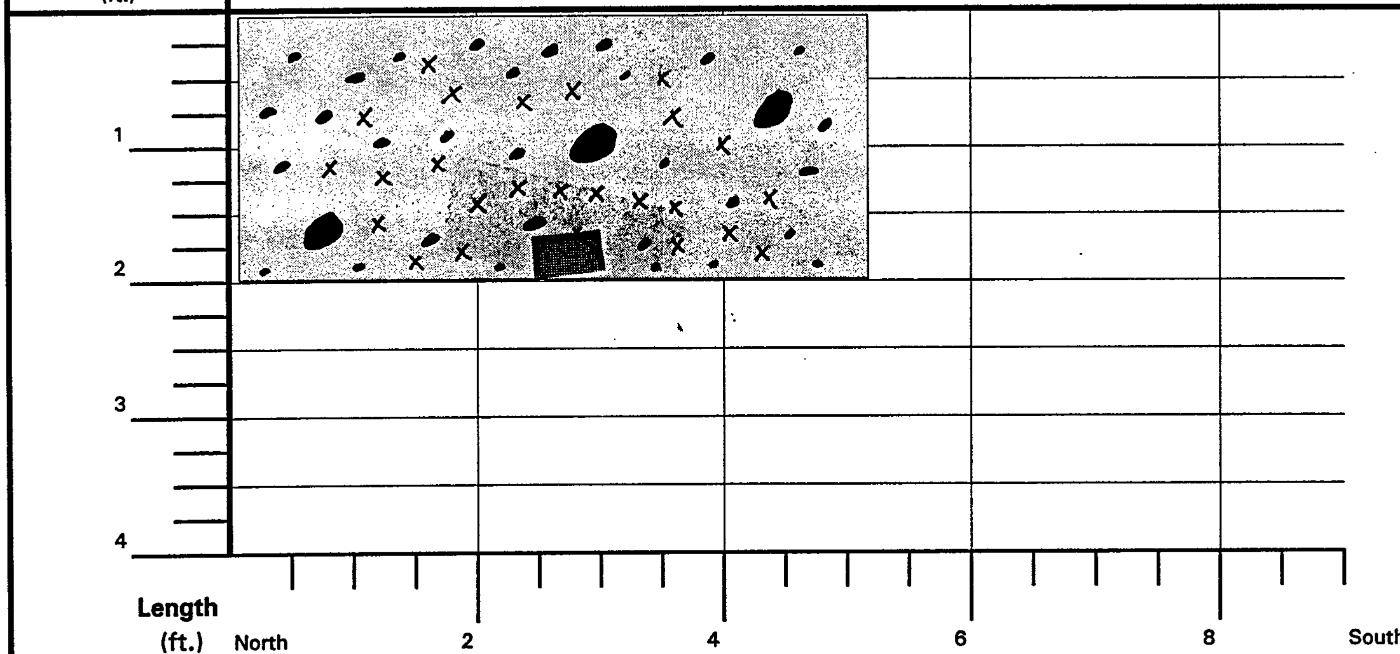


ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008
Test Pit No.:	TP-F7
Location:	South of landfill on slope
Excavation Contractor:	East Coast
Excavator Make/Model:	TAKEUCHI
Date/Time Started/Finished	9 /21 /95 1045/1100
Dimensions L x W x D (feet):	5 x 2 x 2
Logged By:	M.Plumb/ K.Kutawski
Weather & Temperature:	Cloudy 60's
Screening Device (Type, make, model):	Foxboro Model 108 FID and Bacharach Four Gas Meter

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	1 ppm	BG

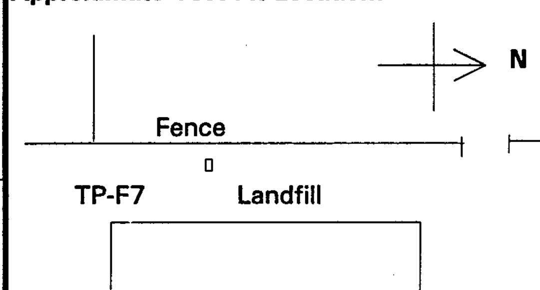
Location of Landfill Waste



KEY

Soil Description	0-2 ft. 2 ft.	Light brown clayey SILT, some f.-c. gravel, little cobbles Possible gray layer on bottom- pieces of SILT , some clay, f. gravel
Waste Description	2 ft	Household trash bag- septic type odor

Approximate Test Pit Location:

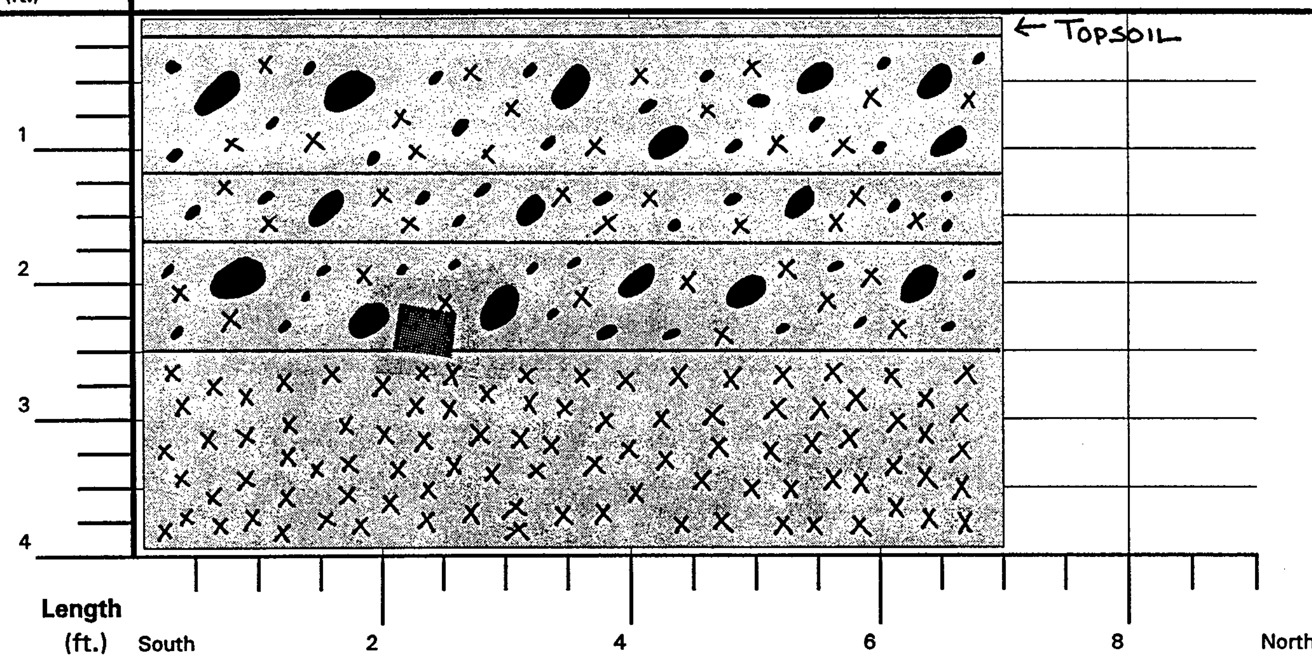


ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-F8	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill in field by fence	

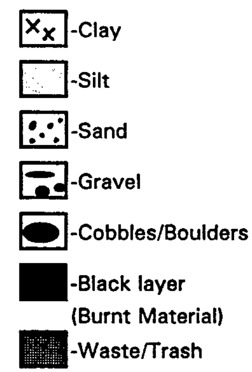
Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x H (feet):
East Coast	TAKEUCHI	9 /21 /95 1520/1545	7 x 3 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Depth (ft.) — **Location of Landfill Waste**



FID (ppm)	Air Monitoring			
	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY



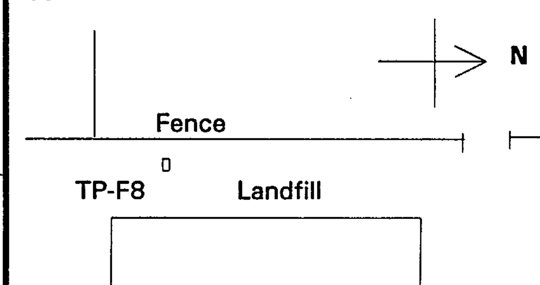
Soil Description

0-0.2 ft	Topsoil
0.2-1.2 f	Brown loose clayey SILT, some f.-c. gravel, some cobbles
1.2-1.6 f	Light grey clayey SILT, some f.-c. gravel, some cobbles
1.6-2.5 f	Brown more compact clayey SILT, some f.-c. gravel, some cobbles
2.5-4 ft	Grey-green layer- compacted SILT and CLAY looks like sample form near by test boring 3A

Waste Description

2.5 ft	Metal can in side of pit wall

Approximate Test Pit Location:



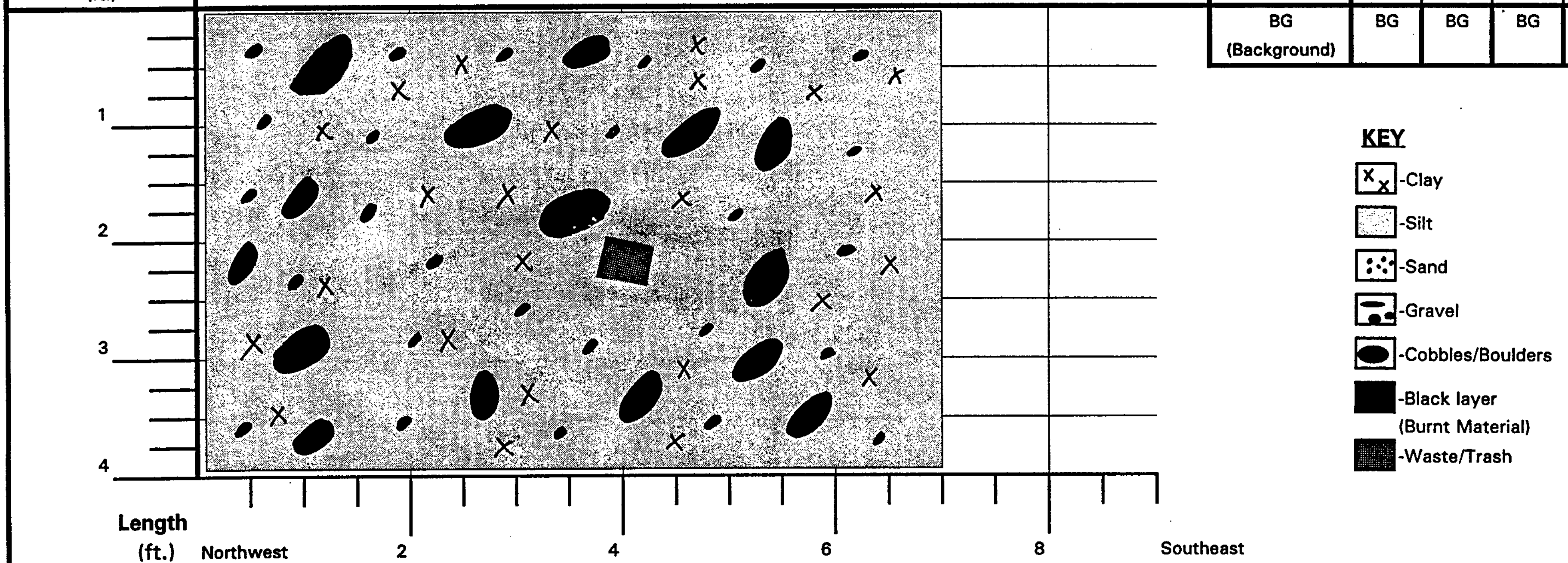
ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-F9	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	West of landfill in field by fence	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /21 /95 1545/1615	7 x 3 x 4
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

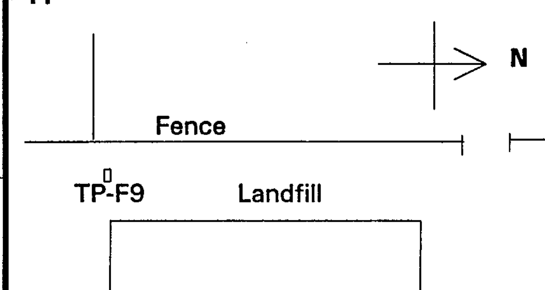
Soil Description

0-2.5 ft. Tan clayey SILT, some f.-c. gravel, some cobbles, some boulders
2.5-4 ft. Light brown clayey SILT, some f.-c. gravel, some cobbles, some boulders

Waste Description

One brick

Approximate Test Pit Location:

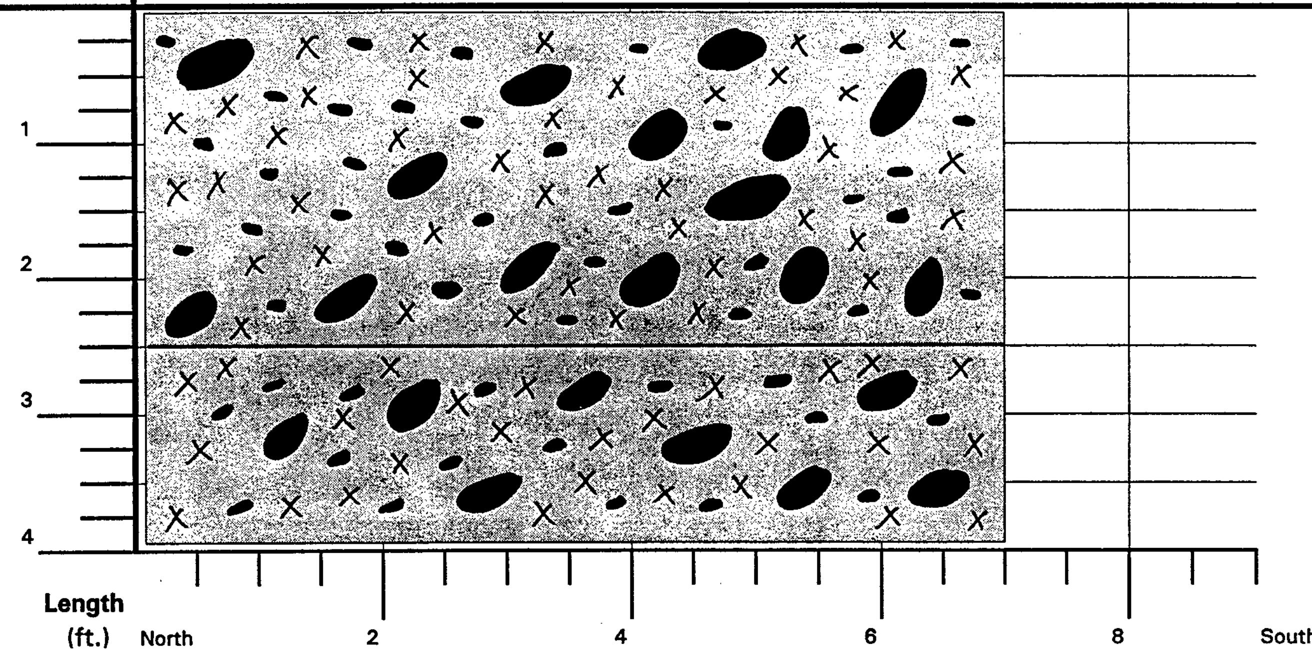


ANEPTEK CORPORATION

Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008		**Test Pit No.:** TP-F10	**Page 1 of 1**
		Location: West of landfill in field by fence	
Excavation Contractor: East Coast	**Excavator Make/Model:** John Deer	**Date/Time Started/Finished** 9 /21 /95 1615/1650	**Dimensions L x W x D (feet):** 7 x 3 x 4
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Cloudy 60's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

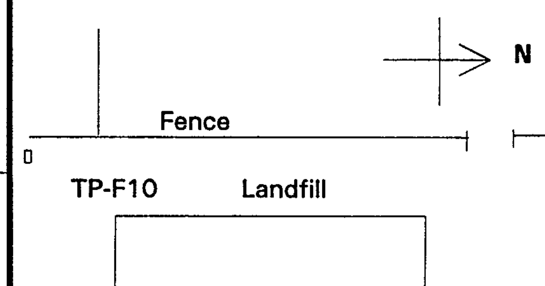
Soil Description

0-2.5 ft. Tan clayey SILT, some f.-c. gravel, some cobbles, some boulders
2.5-4 ft. Light brown clayey SILT, some f.-c. gravel, some cobbles, some boulders

Waste Description

None

Approximate Test Pit Location:



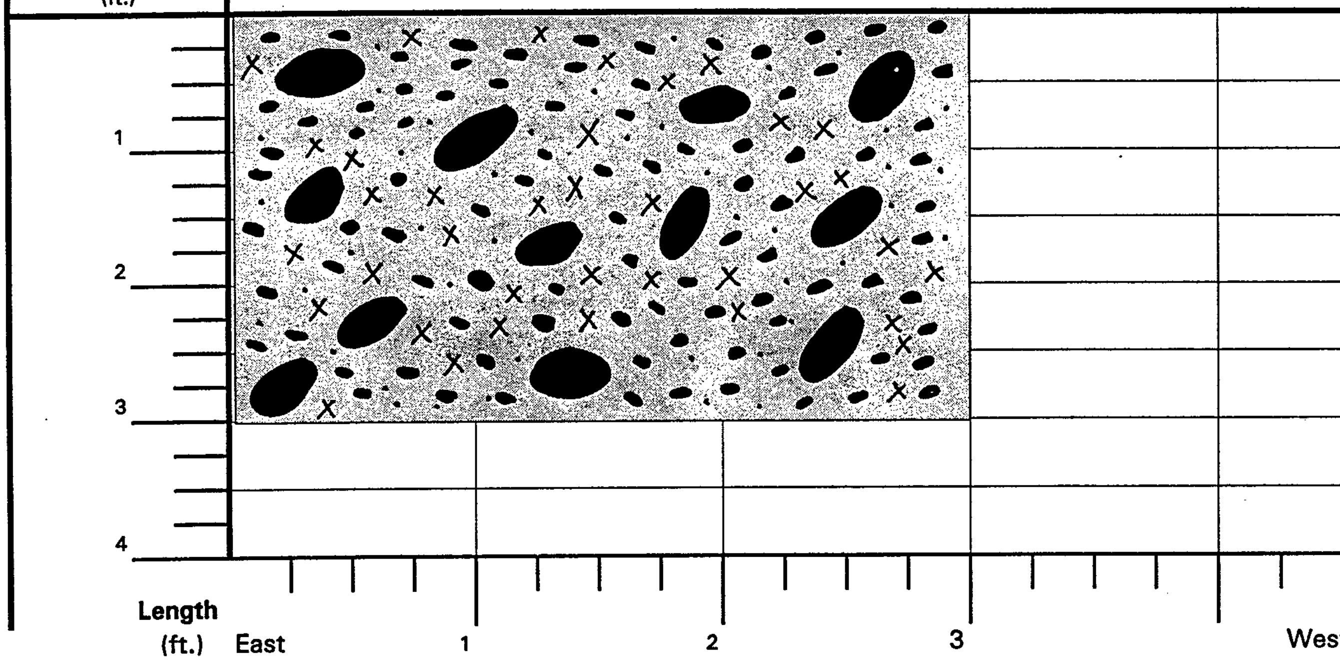
ANEPTEK CORPORATION

Test Pit Log

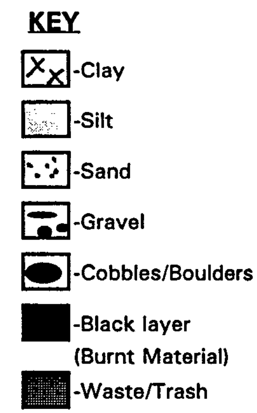
Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-B1	Page 1 of 1
	Location: East of landfill	

Excavation Contractor: East Coast	**Excavator Make/Model:** TAKEUCHI	**Date/Time Started/Finished** 9 /20 /95 0845/0900	**Dimensions L x W x H(feet):** 3 x 3 x 3
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Sunny 70's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste

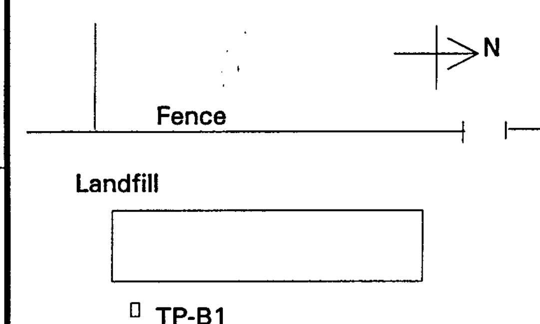


FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG



Soil Description	0-3 ft Tan dry well graded SILT and f.-c. GRAVEL some cobbles some clay, little f. SAND Note color change from light tan, tan, brown
Waste Description	None

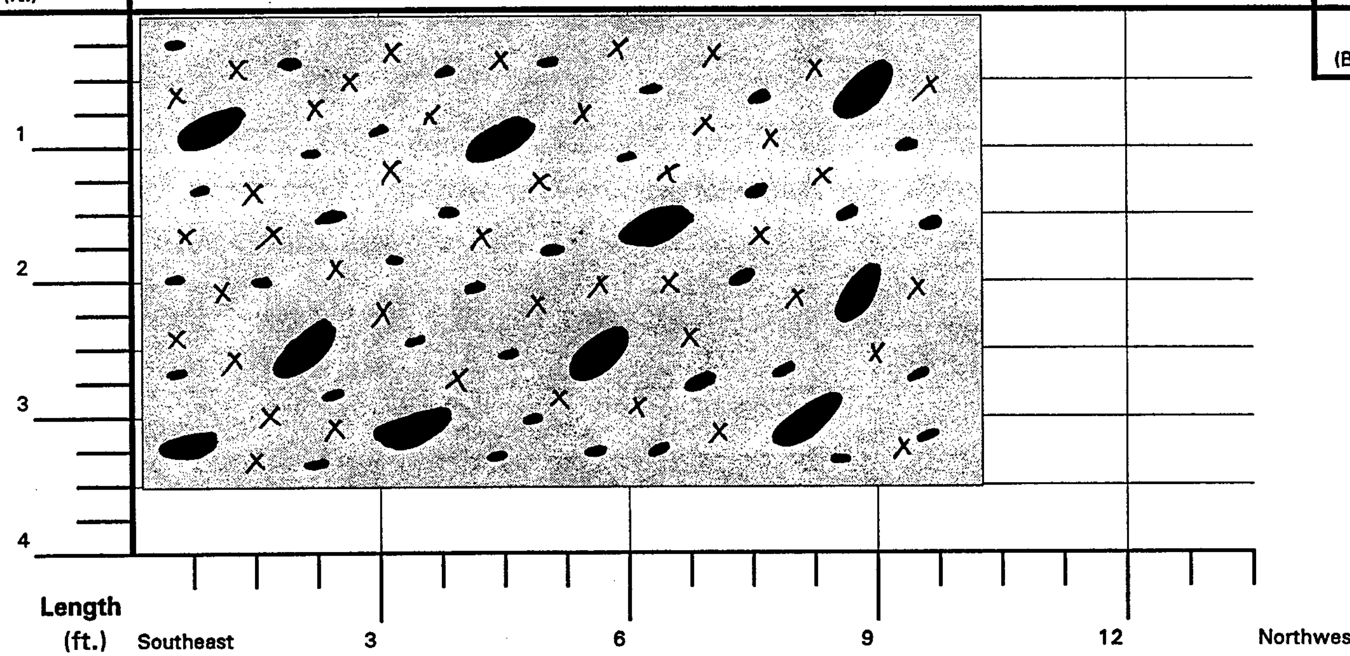
Approximate Test Pit Location:



ANEPTEK CORPORATION Test Pit Log	Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-B1A	Page 1 of 1
		Location: South of landfill on slope	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /21 /95 0910/0930	10 x 2 x 3.5
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



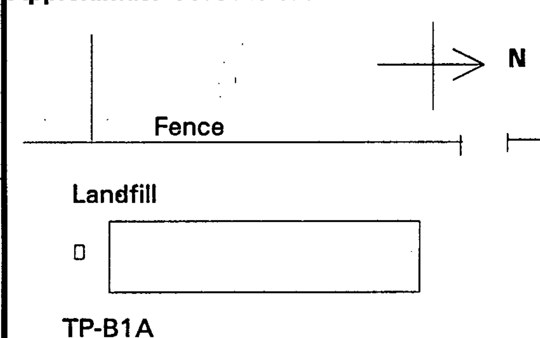
FID (ppm)	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	0-3.5 ft. Tan clayey SILT, some f.-c. gravel, some cobbles, few boulders
Waste Description	None

Approximate Test Pit Location:



PB1A

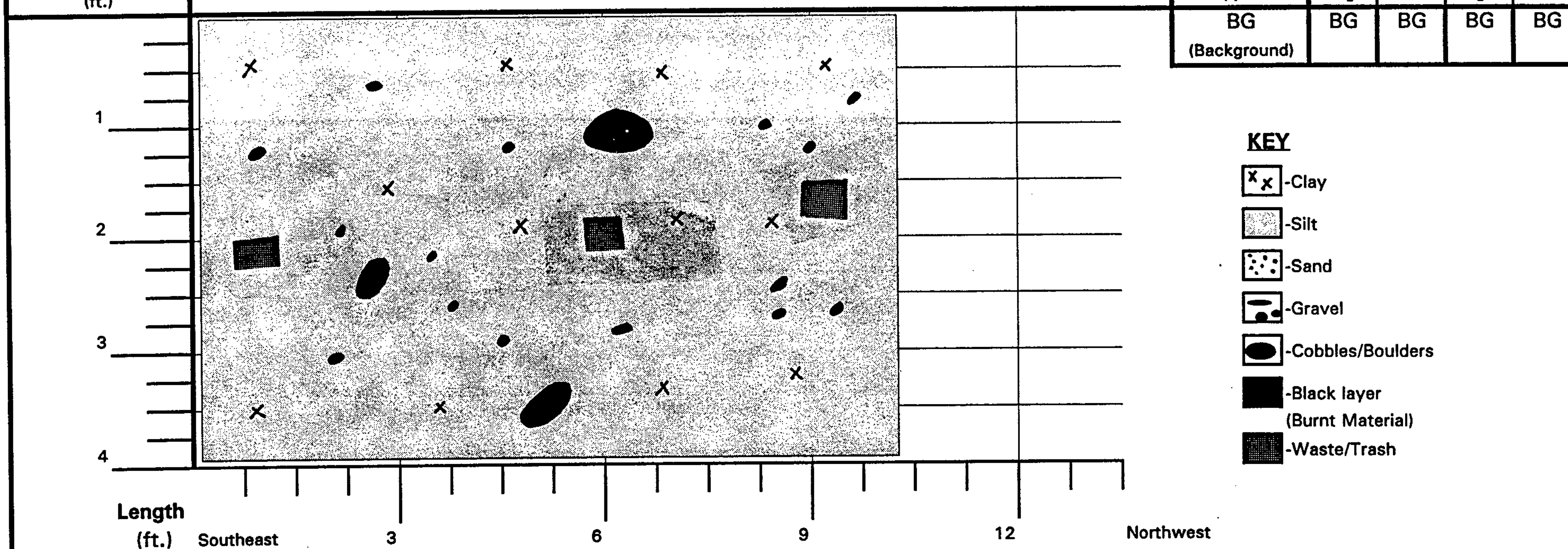
10/20/95 10:33 AM

ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-B1B	**Location:** South of landfill on slope
Excavation Contractor: East Coast	**Excavator Make/Model:** TAKEUCHI	**Date/Time Started/Finished:** 9 /21 /95 0945/1000
Dimensions L x W x D (feet): 10 x 2 x 4	**Logged By:** M.Plumb/ K.Kutawski	**Weather & Temperature:** Sunny 70's
Screening Device (Type, make, model): Foxboro Model 108 FID and Bacharach Four Gas Meter		

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

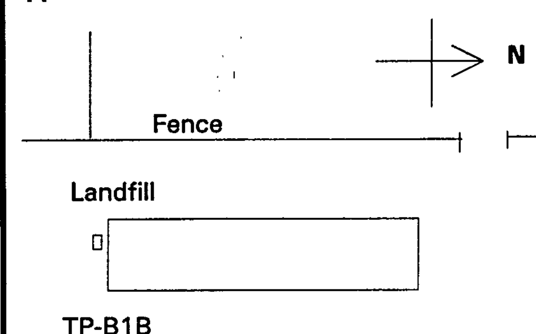
Location of Landfill Waste



Soil Description: 0-4 ft. Tan clayey SILT, some f.-c. gravel, some cobbles, few boulders

Waste Description: 2 ft. Metal, plastic and wood debrie (similar metal debrie found at surface 2 ft from pit)

Approximate Test Pit Location:

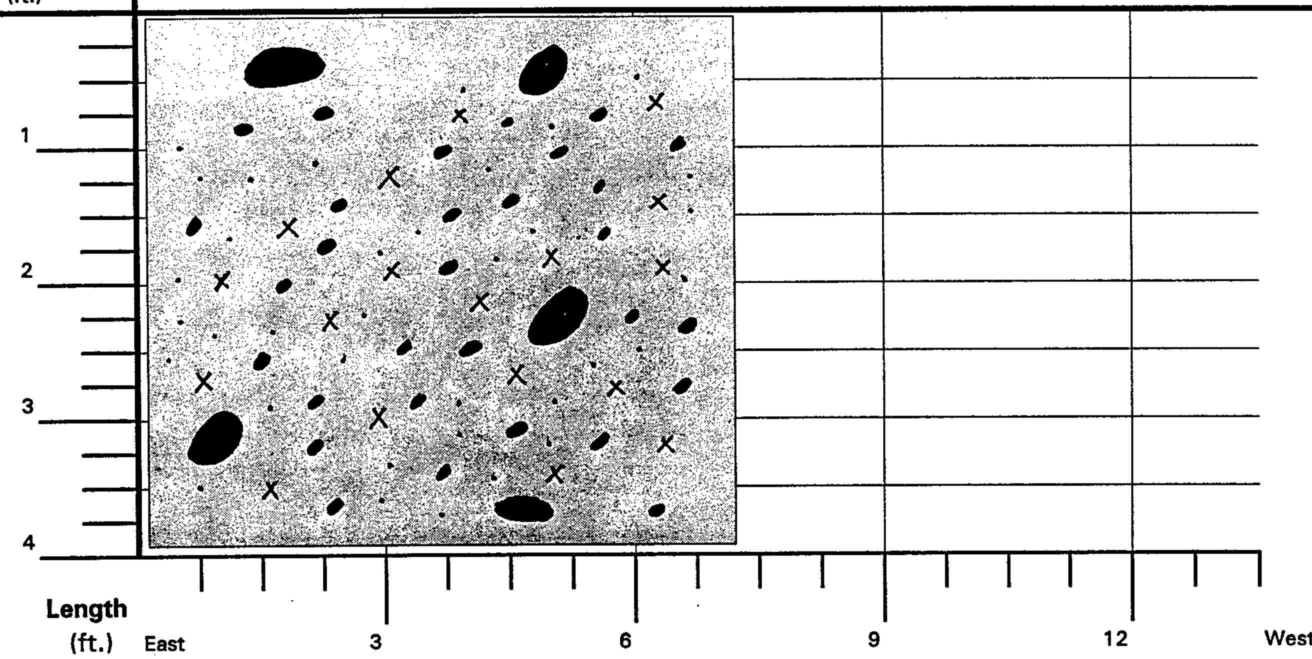


ANEPTEK CORPORATION

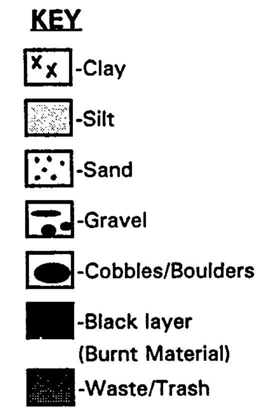
Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-B1C	**Page 1 of 1**	
	Location: South of landfill on slope		
Excavation Contractor: East Coast	**Excavator Make/Model:** TAKEUCHI	**Date/Time Started/Finished** 9 /21 /95 1000/1015	**Dimensions L x W x D (feet):** 7 x 2 x 4
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Cloudy 60's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste

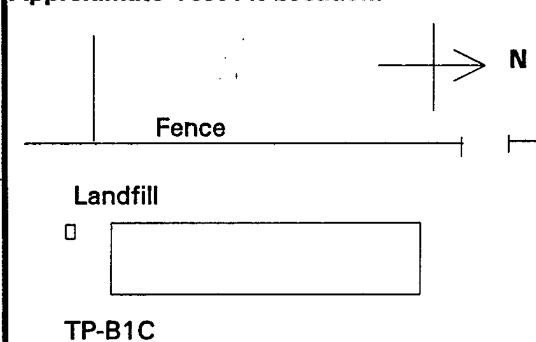


FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG



Soil Description	0-4 ft. Tan clayey SILT, little f. SAND some f.-c. gravel, some cobbles, few boulders
Waste Description	Surface- 2 x 3 ft concrete slab No waste found in pit.

Approximate Test Pit Location:

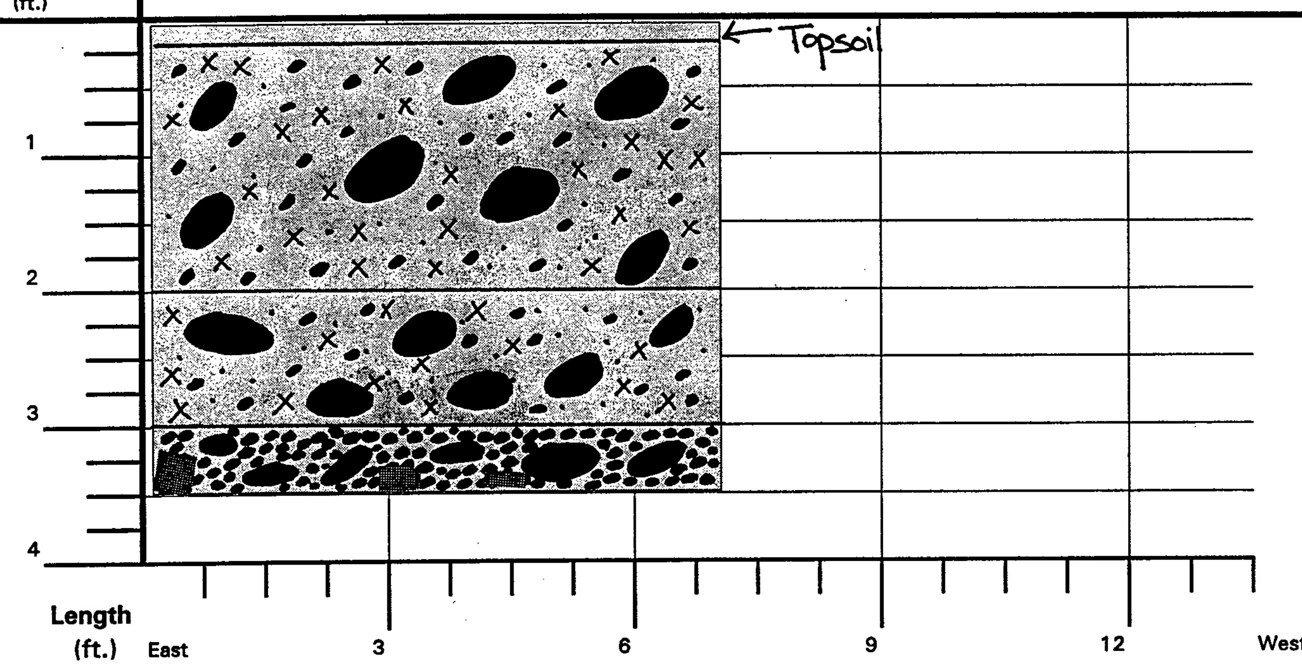


ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-B1D	
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	South of landfill on slope	

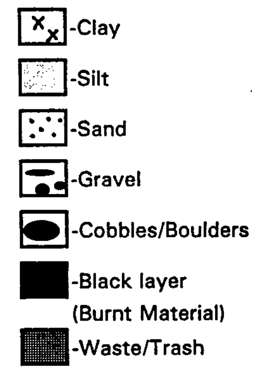
Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /21 /95 1015/1030	7 x 2 x 3.5
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Cloudy 60's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY



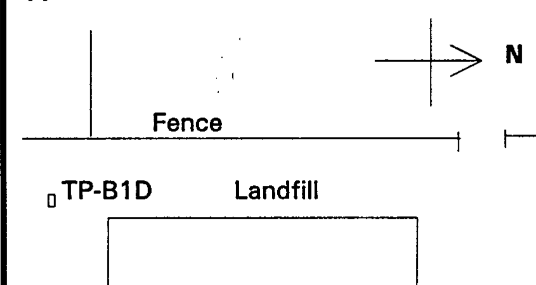
Soil Description

0-0.2 ft	Topsoil
0.2-2 ft.	Tan clayey SILT, little f. SAND some f.-c. gravel, some cobbles, few boulders
2-3 ft.	Orange-tan clayey SILT, little f. SAND some f.-c. gravel, some cobbles Soil appears to be iron stained
3-3.5 ft.	Layer of rocks

Waste Description

3.5 ft	Pieces of wood and plastic

Approximate Test Pit Location:

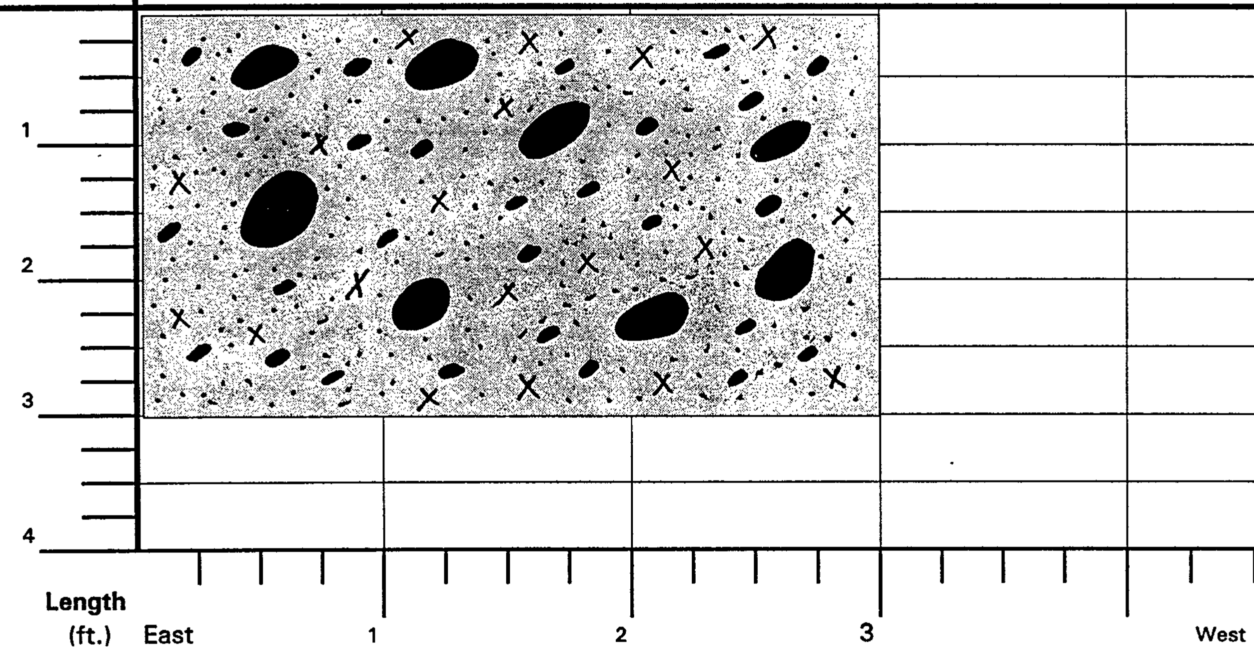


ANEPTEK CORPORATION

Test Pit Log

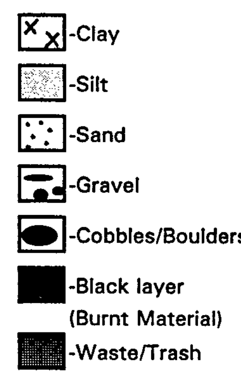
Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008		**Test Pit No.:** TP-B2	**Page 1 of 1**
		Location: East of landfill	
Excavation Contractor: East Coast	**Excavator Make/Model:** TAKEUCHI	**Date/Time Started/Finished** 9 /20 /95 0900/0915	**Dimensions L x W x D (feet):** 3 x 3 x 3
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Sunny 70's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

Depth (ft.) — **Location of Landfill Waste**



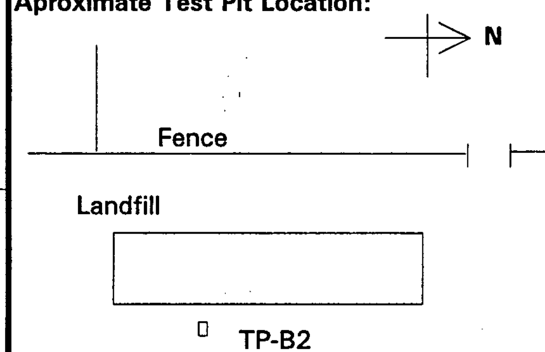
FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG	BG	BG	BG	BG

KEY



Soil Description	0-3 ft Light grey-brown silty SAND and f.-c. GRAVEL some COBBLES, some clay Color change to tan at 3 ft.- moist
Waste Description	None

Aproximate Test Pit Location:

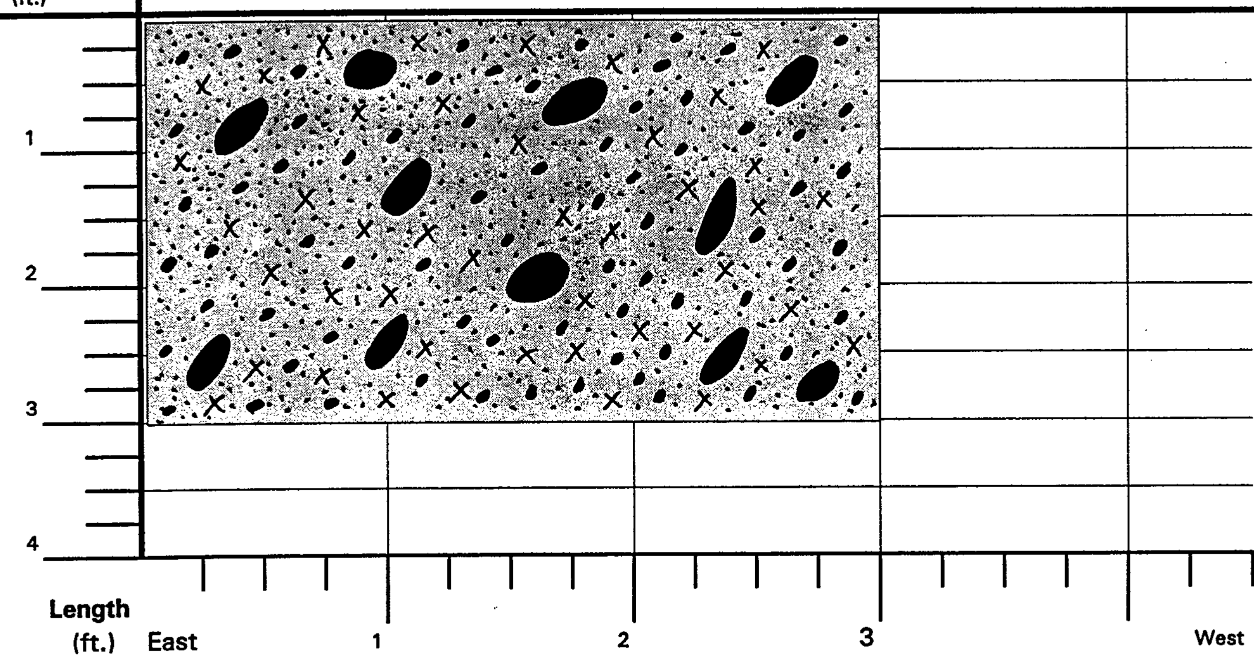


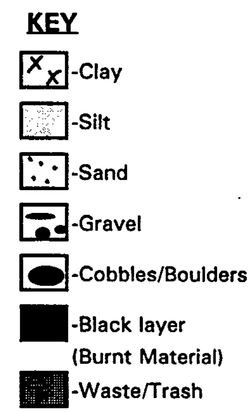
ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008
Test Pit No.:	TP-B2
Location:	East of landfill
Excavation Contractor:	East Coast
Excavator Make/Model:	TAKEUCHI
Date/Time Started/Finished	9 /20 /95 0900/0915
Dimensions L x W x D (feet):	3 x 3 x 3
Logged By:	M.Plumb/ K.Kutawski
Weather & Temperature:	Sunny 70's
Screening Device (Type, make, model):	Foxboro Model 108 FID and Bacharach Four Gas Meter

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG	BG	BG	BG	BG

Location of Landfill Waste

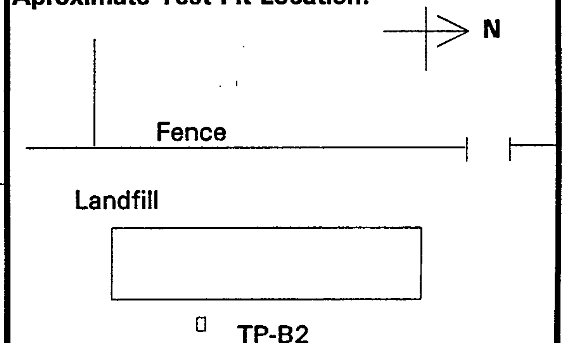




Soil Description: 0-3 ft Light grey-brown silty SAND and f.-c. GRAVEL some COBBLES, some clay
Color change to tan at 3 ft.- moist

Waste Description: None

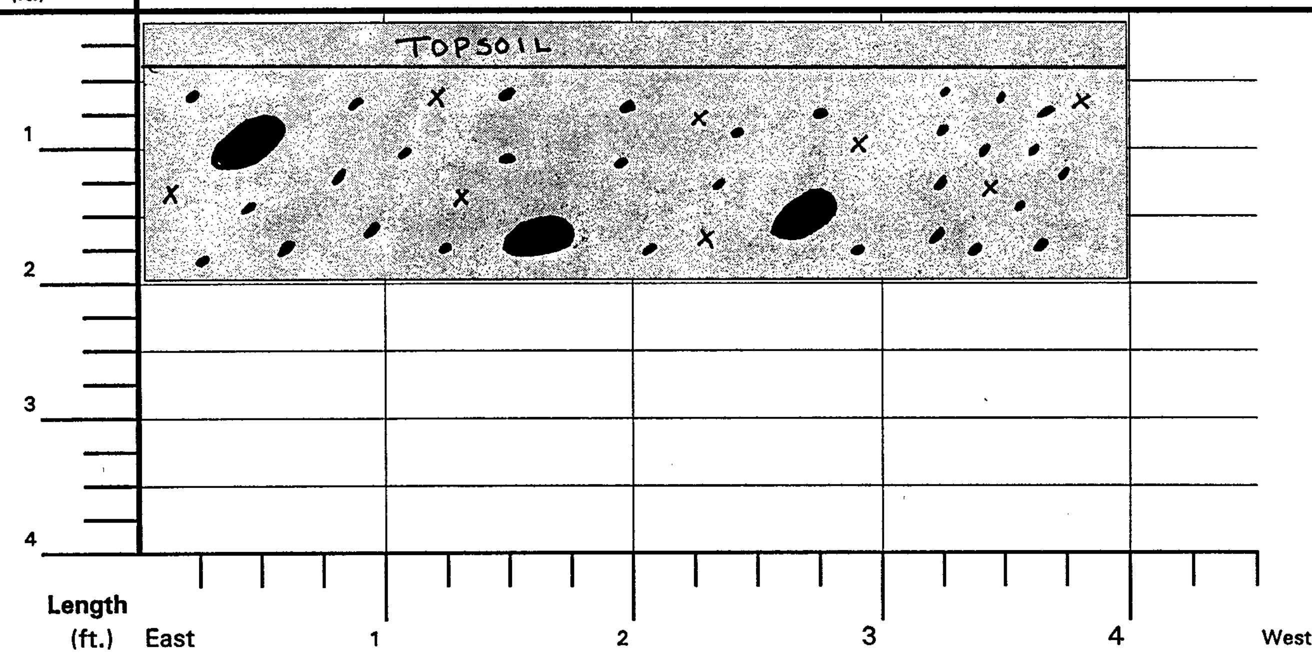
Aproximate Test Pit Location:



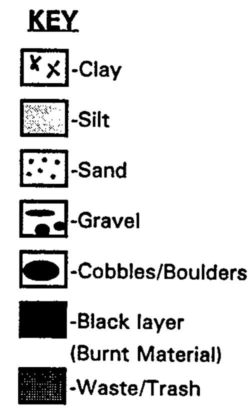
ANEPTEK CORPORATION Test Pit Log	Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-B3	Page 1 of 1
		Location: East of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 0915/0930	4 x 2 x 2
Logged By:	**Weather & Temperature:**	**Screening Device (Type, make, model):**	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG



Soil Description

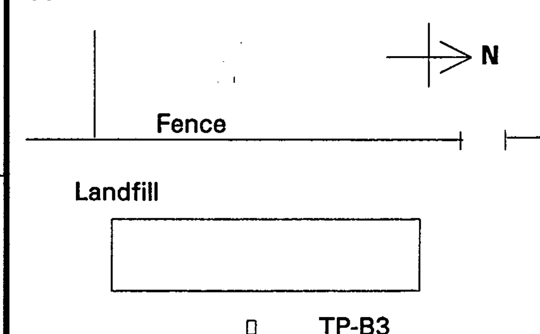
0-.4 ft. Layer of topsoil- brown, roots

0.4- 2 ft. Tan damp well graded SILT and angular to subangular f.-c. GRAVEL some cobbles, little clay, a boulder

Waste Description

None

Approximate Test Pit Location:

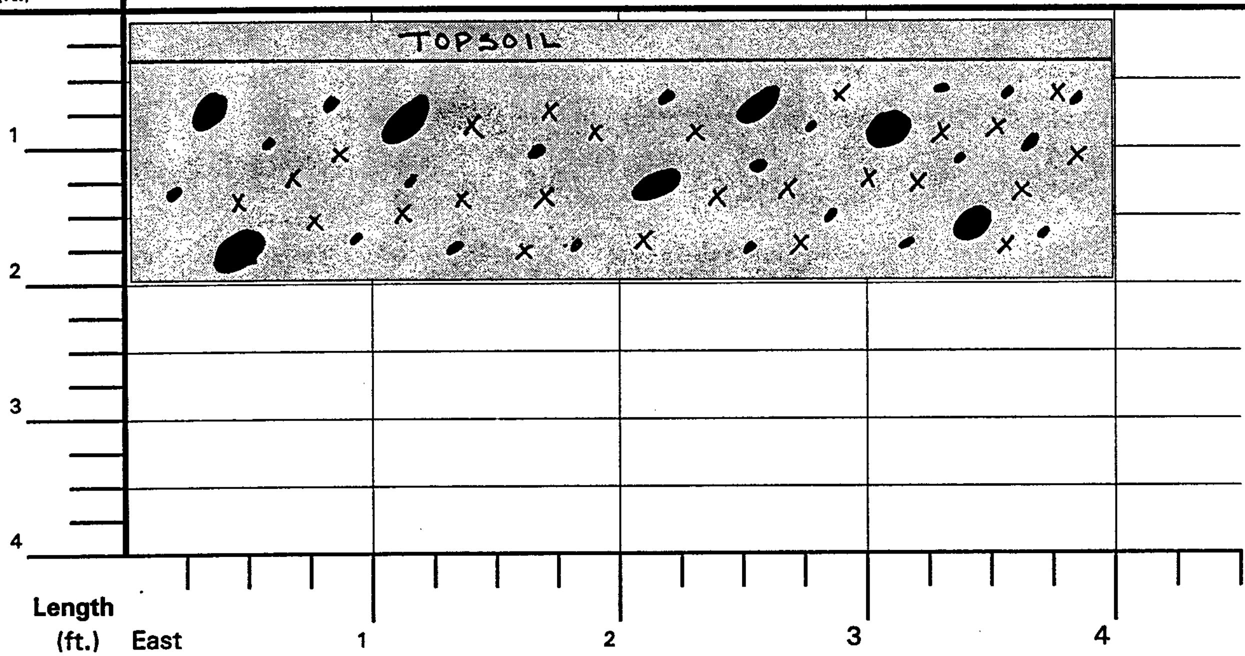


ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	Test Pit No.:	
ANGR/Stewart ANG Newburgh, N.Y.	TP-B4	Page 1 of 1
Landfill Closure Site Investigation Site 1	Location:	
DAHA-90-93-D-003-DO-0008	East of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 0930/0945	4 x 2 x 3
Logged By:	Weather & Temperature:	Screening Device (Type, make, model):	
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



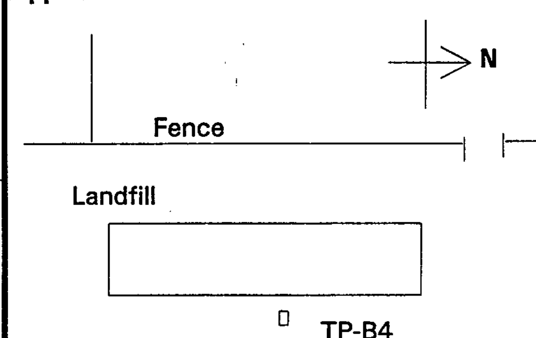
FID (ppm)	Air Monitoring			
	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	0-.4 ft. Layer of topsoil- brown, roots 0.4- 2 ft. Tan well graded clayey SILT and f.-c. GRAVEL some cobbles
Waste Description	None

Approximate Test Pit Location:



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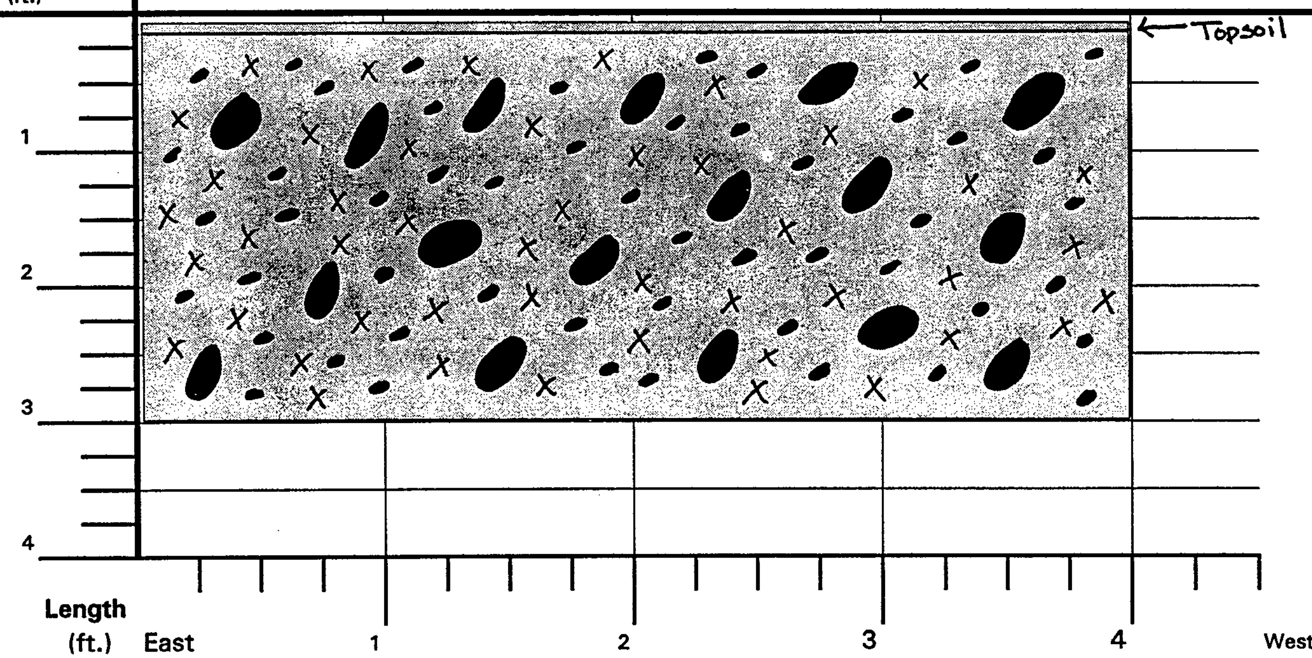
ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-B5	Location: East of landfill	
Excavation Contractor: East Coast	Excavator Make/Model: TAKEUCHI	Date/Time Started/Finished: 9 /20 /95 0945/1000	Dimensions L x W x D (feet): 4 x 1.5 x 3
Logged By: M.Plumb/ K.Kutawski	Weather & Temperature: Sunny 70's	Screening Device (Type, make, model): Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



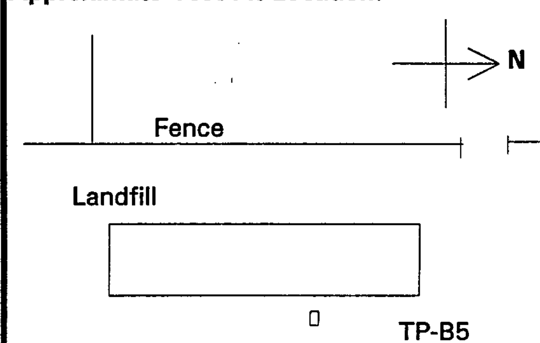
FID (ppm)	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

KEY
- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description
0-.2 ft. Layer of topsoil- brown roots
0.2- 1.5ft. Tan well graded loose clayey SILT and f.-c. GRAVEL some cobbles boulders in walls of pit

Waste Description
None

Approximate Test Pit Location:



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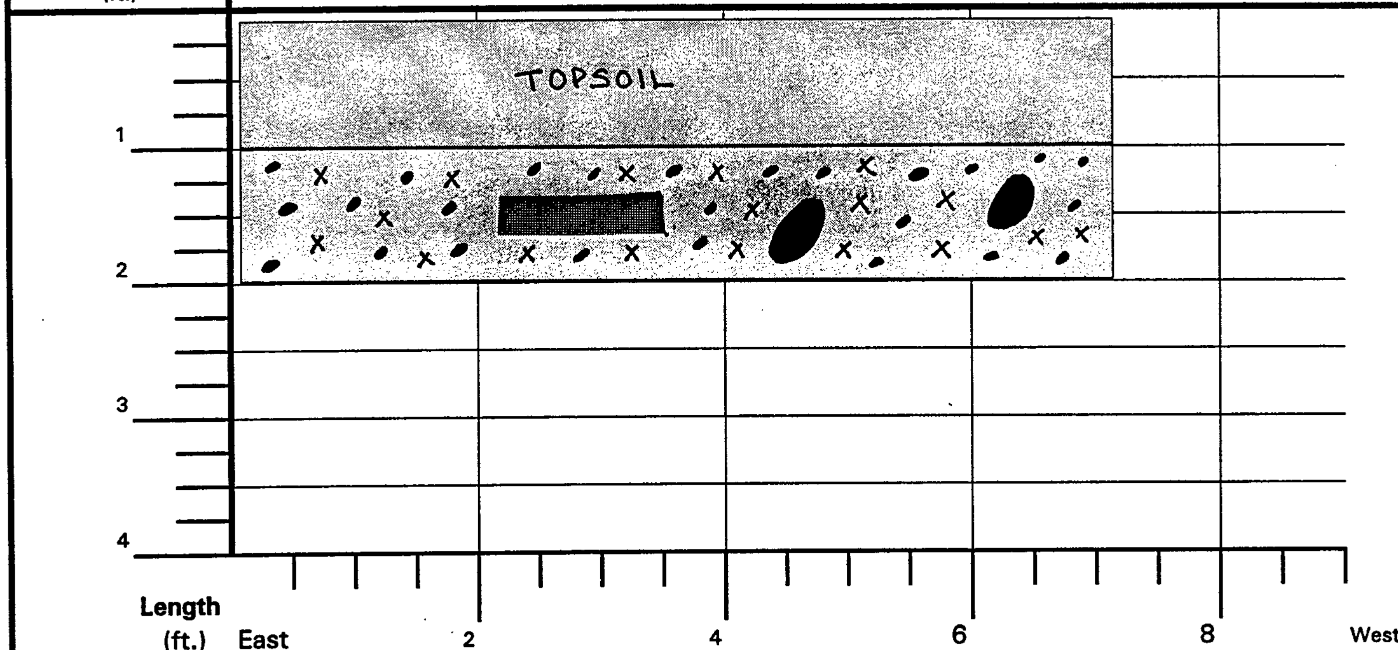
ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	**Test Pit No.:** TP-B6	Page 1 of 1
	Location: East of landfill	

Excavation Contractor: East Coast	**Excavator Make/Model:** TAKEUCHI	**Date/Time Started/Finished** 9 /20 /95 1000/1015	**Dimensions L x W x D (feet):** 7 x 1.5 x 2
Logged By: M.Plumb/ K.Kutawski	**Weather & Temperature:** Sunny 70's	**Screening Device (Type, make, model):** Foxboro Model 108 FID and Bacharach Four Gas Meter	

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

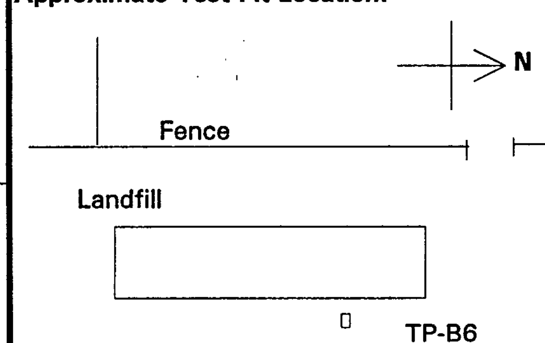
Location of Landfill Waste



KEY
- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	1 ft. Layer of topsoil- brown, roots 1-2 ft. Brown to tan damp well graded clayey SILT and f.-c. GRAVEL, few boulders boulders in walls of pit
Waste Description	1.5 ft. bgs- Red and yellow trash barrel (crushed)

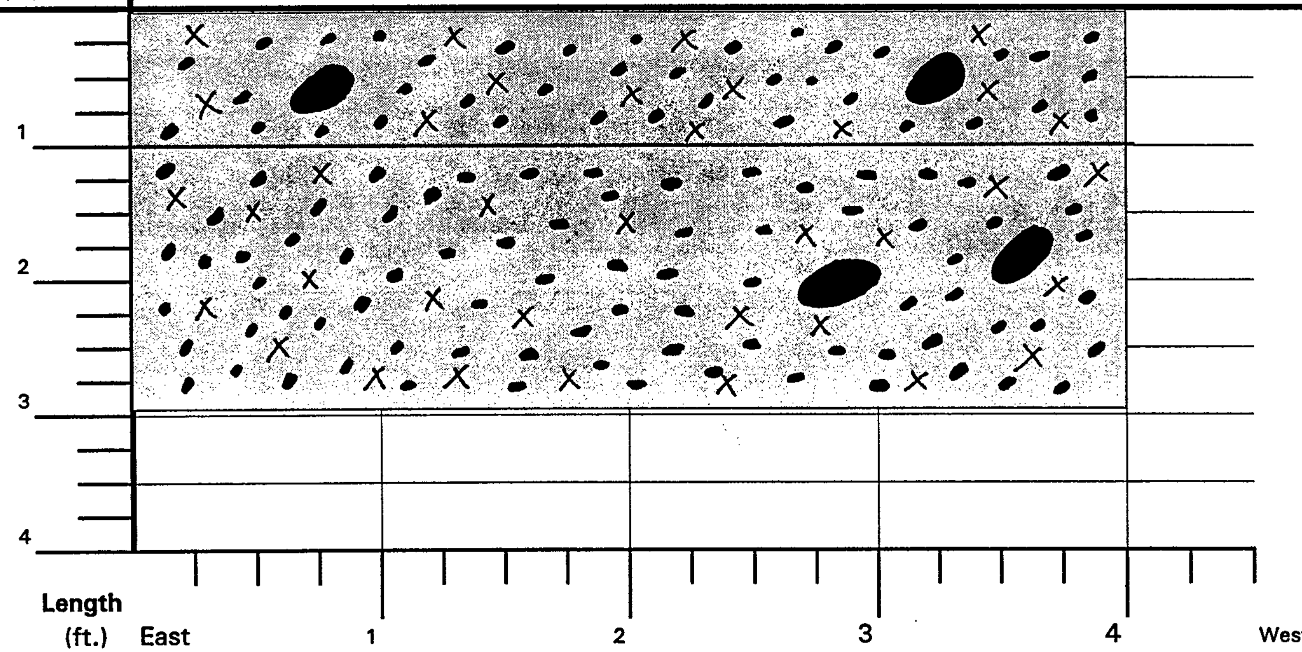
Approximate Test Pit Location:



ANEPTEK CORPORATION Test Pit Log	Client/Project/Contract No.: ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008	Test Pit No.: TP-B7	Page 1 of 1
		Location: East of landfill	

Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1015/1045	4 x 1.5 x 3
Logged By: M.Plumb/ K.Kutawski	Weather & Temperature: Sunny 70's	Screening Device (Type, make, model): Foxboro Model 108 FID and Bacharach Four Gas Meter	

Location of Landfill Waste



FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

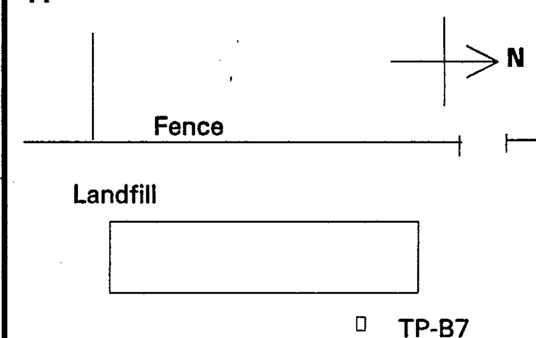
KEY

- Clay
- Silt
- Sand
- Gravel
- Cobbles/Boulders
- Black layer (Burnt Material)
- Waste/Trash

Soil Description	
0-1 ft.	Color change: Dark brown to brown SILT and f.-c. GRAVEL some clay, few cobbles
1-3 ft.	Light tan to tan SILT and f.-c. GRAVEL some clay, few cobbles

Waste Description	
	None

Approximate Test Pit Location:

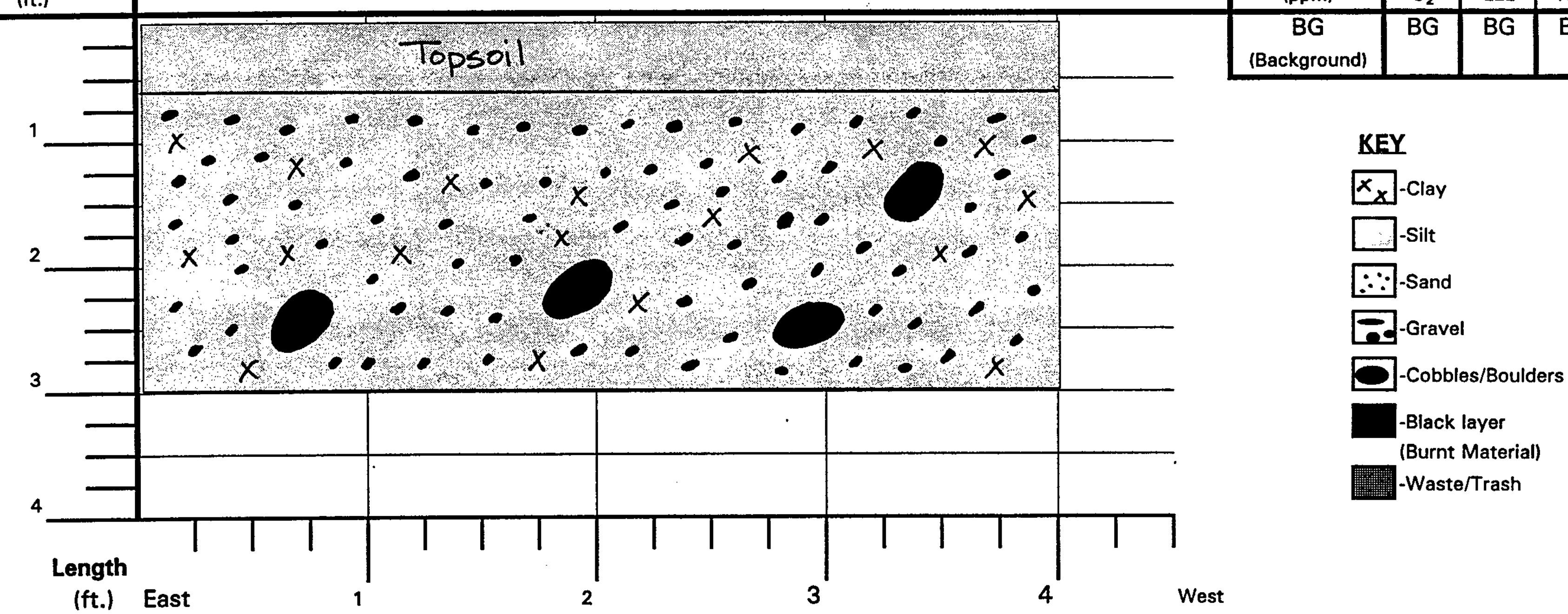


ANEPTEK CORPORATION
Test Pit Log

Client/Project/Contract No.:	ANGR/Stewart ANG Newburgh, N.Y. Landfill Closure Site Investigation Site 1 DAHA-90-93-D-003-DO-0008
Test Pit No.:	TP-B8
Location:	East of landfill
Excavation Contractor:	East Coast
Excavator Make/Model:	TAKEUCHI
Date/Time Started/Finished	9 /20 /95 1045/1100
Dimensions L x W x D (feet):	4 x 1.5 x 3
Logged By:	M.Plumb/ K.Kutawski
Weather & Temperature:	Sunny 70's
Screening Device (Type, make, model):	Foxboro Model 108 FID and Bacharach Four Gas Meter

FID (ppm)	Air Monitoring			
	O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

Location of Landfill Waste



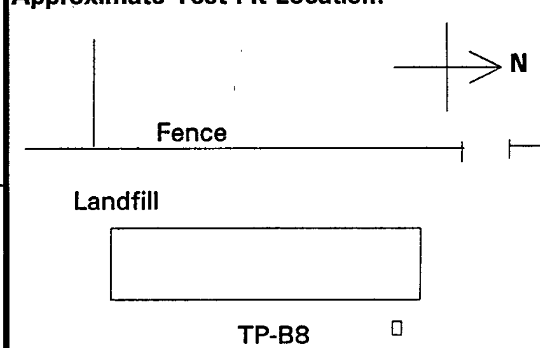
Soil Description

0-0.6 ft. Brown to light brown topsoil with a fair amount of roots
0.06-3 ft Tan SILT and f.-c. GRAVEL some to little clay, few cobbles and boulders

Waste Description

None

Approximate Test Pit Location:



ANEPTEK CORPORATION
Test Pit Log

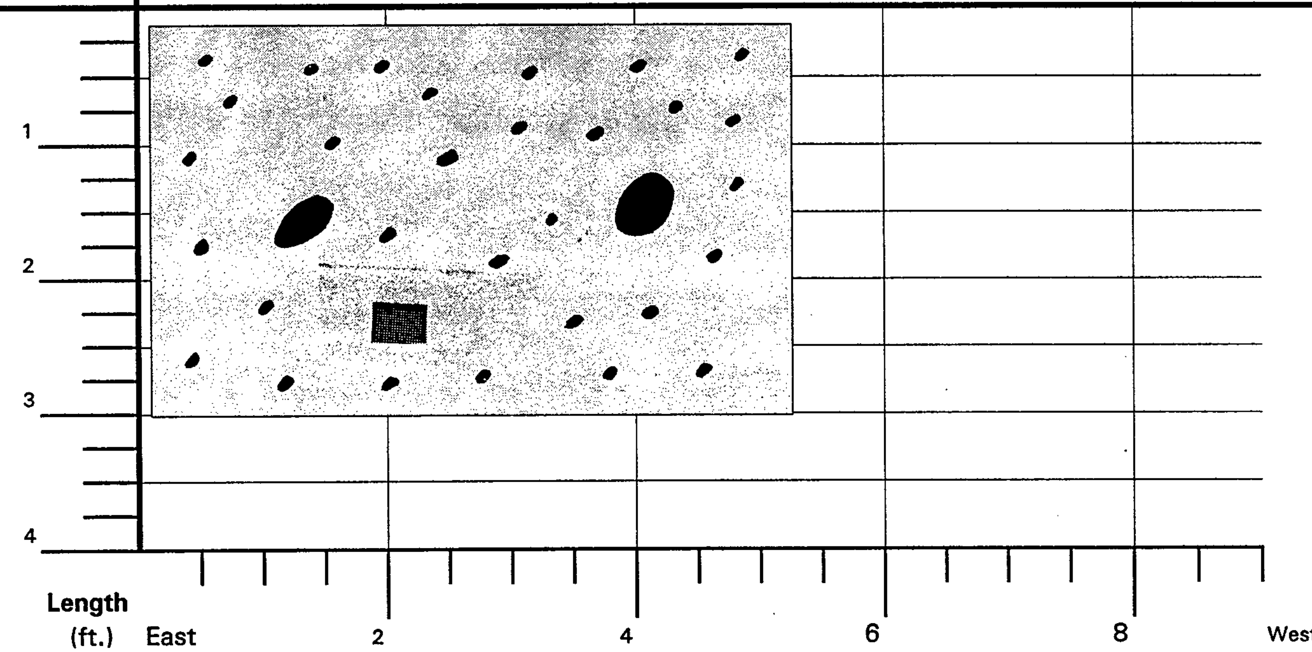
Client/Project/Contract No.:	Test Pit No.: TP-B9B	Page 1 of 1
ANGR/Stewart ANG Newburgh, N.Y.	Location:	
Landfill Closure Site Investigation Site 1	East of landfill	
DAHA-90-93-D-003-DO-0008		

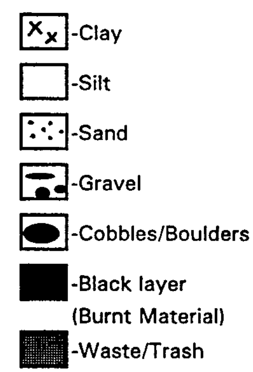
Excavation Contractor:	Excavator Make/Model:	Date/Time Started/Finished	Dimensions L x W x D (feet):
East Coast	TAKEUCHI	9 /20 /95 1125/1140	5 x 1.5 x 3

Logged By:	Weather & Temperature:	Screening Device (Type, make, model):
M.Plumb/ K.Kutawski	Sunny 70's	Foxboro Model 108 FID and Bacharach Four Gas Meter

FID (ppm)	Air Monitoring O_2	LEL	H_2S	CO
BG (Background)	BG	BG	BG	BG

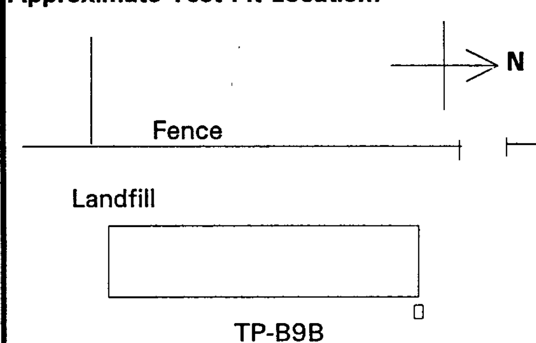
Location of Landfill Waste





Soil Description	1-3 ft. Brown, well graded SILT and f.-c. GRAVEL, few cobbles (fill)
Waste Description	Paper (coffee lable)

Approximate Test Pit Location:



APPENDIX D

BORING LOGS

ANEPTEK CORPORATION
Boring Log

ANEPTEK CORPORATION Boring Log	**Client/Project/Contract No.:** ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	
	Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel	**Boring/Well No.:** MW-01

Drilling Contractor:	**Drilling Rig Make/Model:**			**Date/Time Started**	**Date/Time Finished**
East Coast Thomas	CME Track Rig			10/16/95 952	10/20/95 930
Logged By:	**Drilling Method:**			**Screening Device (Type, make, model):**	
J. Donovan	HSA / NX Core Barrel			HNU PID 10.2 eV	
Location (survey coord):	**Ground. El:**	**Total Depth:**	**Bedrock Depth:**	**Water Table Depth:**	**Borehole Diameter:**
546067.50 N, 568494.86 E	436.5	43.0 ft.	31.6 ft.	NA	8"(0-16')/4"(16-43')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1	0-2		4,10 15,33	12	0-2" Brown topsoil 2-10" Grey SILT some gravel Not enough recovery for a sample	GM	f
2, 3	2-4	MW-01-04	7,25 34,41	13	Grey SILT, trace clay, trace gravel	ML	f
4, 5	4-6	MW-01-06	25,39 45,50/4"	24	Grey SILT, some f.-c. gravel, trace clay	ML	f
6, 7	6-8		21,28 30,48	10	Grey SILT, little clay, trace f.-c. gravel	ML	f
8, 9	8-10	MW-01-10	16,23 32,41	22	Grey SILT, little clay, trace f.-c. gravel	ML	f
10, 11	10-11.2		19,35 52/2"	10	Grey SILT, little clay, trace f.-c. gravel Refusal at 11.2'	ML	f
12					Roller Bit to 13'		
13, 14	13-15		10, 22 33, 31	15	Grey SILT, little clay, trace f.-c. gravel	ML	f
15, 16					Roller Bit to 16'		
17	16-18	MW-01-18	Min./ ft 5 5	24"	Begin Coring at 16' with Series 6 Bit Grey very stiff TILL consisting mainly of CLAY and f.-c. gravel, some silt	CL	f

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		
Blows/ft	Density	Blows/ft	Density	
<4	V. Loose	<2	V. Soft	Trace: 0 - 10%
4 - 10	Loose	2 - 4	Soft	Little: 10 - 20%
10 - 30	m. Dense	4 - 8	m. Stiff	Some: 20 - 35%
30 - 50	Dense	8 - 15	Stiff	And: 35 - 50%
>50	V. Dense	15 - 30	V. Stiff	**Water Content**
		>50	Hard	D - Dry M - Moist W - Wet

Notes and Comments:
Lost 30 gallons of water during drilling.

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D003/DO-08

Sampler Type/Size: 5' NX Core Barrel

Boring/Well No.: MW-01

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18							
19–22	20-22	MW-01-22	3 4 4 5 4	54	Grey very stiff TILL consisting mainly of CLAY and f.-c. gravel, some silt	CL	f
23–28	25-27	MW-01-27	3 5 4 4 4	60	Grey very stiff TILL consisting mainly of CLAY and f.-c. gravel, some silt	CL	f
29–33	30-31.6	MW-01-31.6	3 4 4 7 7	60	28'-31.6' Grey very stiff TILL consisting mainly of CLAY and f.-c. gravel, some silt 31.6'-33' Dark grey weathered shale, RQD= 0	CL	f
34–38	33-38		4 3 4 5 3	60	Dark grey fractured shale, no iron staining, no fines RQD=0		
39							

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	Page 3 of 3
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: MW-01

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
40	38-43		4	60	Weathered shale, iron staining in bottom 2' of fractures, no fines, RQD=0		
			3				
41			4				
			5				
42			3				
43							
					E.O.B.- 43'		

ANEPTEK CORPORATION Boring Log	**Client/Project/Contract No.:** ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	
	Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel	**Boring/Well No.:** MW-04

Drilling Contractor:	**Drilling Rig Make/Model:**	**Date/Time Started**	**Date/Time Finished**
East Coast Thomas	CME Track Rig	10/24/95 1317	11/16/95 1630
Logged By:	**Drilling Method:**	**Screening Device (Type, make, model):**	
K.Kutawski/ M. Plumb	HSA / NX Core Barrel	Foxboro 108 FID /Bacharach 4 Gas	

Location (survey coord):	**Ground. El:**	**Total Depth:**	**Bedrock Depth:**	**Water Table Depth:**	**Borehole Diameter:**
545635.45N 568377.81E	434.20 ft.	72.5 ft	45-46 ft	NA	8.25"(0-9')/4"(9-72.5)

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1 2	0-2		8, 5 7, 16	15.5	Brown stiff clayey SILT, little f.-m. gravel , trace f. sand Color change to grey in bottom 1/2" Rolled to 1/4" when water is added	ML	f
3 4	2-4		17, 23 35, 30	20	Brown hard clayey SILT, little f. gravel, trace m. gravel Color change to grey in bottom 3" Roll to 1/8" when water is added, stiffer than last interval (lodgement till)	ML	f
5 6	4-6		7, 16 22, 22	12	Grey dry v. stiff clayey SILT, little f.-m. gravel, little f.-m. sand Roll to 1/8" when water is added (lodgement till)	ML	f
7 8	6-8		19, 19 20, 18	16	Grey dry v. stiff clayey SILT, little f.-m. gravel, little f.-m. sand Roll to 1/8" when water is added Refusal at 8' (lodgement till)	ML	f
9					Roller Bit to 9'		
10 11 12	9-12.5		Min/ ft 5 3.5 3.5 4	30	Begin Coring at 9' with Step Bit Grey very stiff CLAY, some SILT, some f.-c. gravel, trace f. sand , 2 cobbles (lodgement till) Rolls to 1/32" when water is added	CL	f
13 14 15 16 17	12.5-17.5			60	Grey very stiff CLAY, some SILT, some f.-c. gravel, trace f. sand , 1 cobble (lodgement till) Rolls to 1/32" when water is added	CL	f

Penetration Resistance				Proportions	Notes and Comments:
Granular Soils		Cohesive Soils			
Blows/ft	Density	Blows/ft	Density		
<4	V. Loose	<2	V. Soft	Trace: 0 - 10%	
4 - 10	Loose	2 - 4	Soft	Little: 10 - 20%	
10 - 30	m. Dense	4 - 8	m. Stiff	Some: 20 - 35%	
30 - 50	Dense	8 - 15	Stiff	And: 35 - 50%	
>50	V. Dense	15 - 30	V. Stiff	**Water Content**	
		>50	Hard	D - Dry	
				M - Moist	
				W - Wet	

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	Page 2 of 4
	Sampler Type/Size: 2" Split Spoon/ 5' NX Core Barrel	Boring/Well No.: MW-04

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18 19 20 21 22	17.5-22.5		3 3 3 3 5	42	Grey very stiff CLAY, some silt, some f.-c. gravel, trace f. sand, 1 cobbles (lodgement till) Rolls to 1/32" when water is added	CL	f
23 24 25 26 27	22.5-27.5		2 2 1 3.5 3.5	56.5	Grey very stiff CLAY, some silt, some f.-c. gravel, trace f. sand, 2 cobbles (lodgement till) Rolls to 1/32" when water is added	CL	f
28 29 30 31 32	27.5-32.5		1.5 2 4 4 3	33	Grey very stiff CLAY, some silt, some f.-c. gravel, trace f. sand, 2 cobbles (lodgement till) Rolls to 1/32" when water is added Changed to Series 6 Bit at 32.5'	CL	f
33 34	32.5-34			11	Grey very stiff CLAY, some silt, some f.-c. gravel, trace f. sand, 1 cobble, washed stones, rolls to 1/32" when water is added (lodgement till)	CL	f
35 36	34-36		4 5	5	Eight medium size pieces of fined grained grey gravel		
37 38 39	36-40		3 3 4 2.5		Grey very stiff TILL consisting mainly of CLAY, some silt, some f.-c. gravel, trace f. sand, 2 cobbles Rolls to 1/32" when water is added	CL	f

Notes and Comments:

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-0003/DO-04

Sampler Type/Size: 5' NX Core Barrel

Boring/Well No.: MW-04

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
40							
40-41					Roller Bit to 41'		
41-43.5	41-43.5		7 8 6"/4.5	5	1" Grey very stiff CLAY, some silt, some f.-c. gravel, trace f. sand, 2 cobbles (lodgement till) Rolls to 1/32" when water is added Gravel jammed in barrel	CL	
43.5-45					Roller Bit to 45'		
45-47	45-47		7.5 8	18	Grey weathered shale, 45° bedding planes, fractures along bedding planes, iron staining in fractures, no secondary mineralization, RQD=0		
47-52	47-52		11 9 10 9 8		Grey weathered shale, 45° bedding planes, fractures along bedding planes, iron staining in fractures, no secondary mineralization, RQD=0		
52-57	52-57			50	52-56' Grey weathered fractured shale, bedding not evident, iron staining in fractures, pieces 5-15 mm in size, no secondary mineralization, RQD=0 56-57' Fractures along bedding planes can be identified		
57-62	57-62		4 7 6 8 10	44	57'-61' Grey weathered shale, 45° bedding planes, fractures along bedding planes, iron staining in fractures, some vertical fractures, no secondary mineralization 61-62' No iron staining between fractures RQD = 0		
62-63							

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-0003/DO-04	Page 4 of 4
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: MW-04

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
63	62-67		12	44	Dark grey highly weathered shale, iron staining in fractures,		
			12		little to trace amounts of grey till in sample, no secondary		
64			7		mineralization, bedding not evident		
			8		RQD= 0		
65			5				
66							
67							
	67-72		4	24	Dark grey weathered shale, white calcite veins in rock		
68			6		RQD= 11%		
			5				
69			14				
			5				
70							
71							
72							
					Roller Bit to 72.5'		
73					E.O.B.- 72.5 ft.		
74							
75							

ANEPTEK CORPORATION
Boring Log

Client/Project/Contract No.:			Page 1 of 2
ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08			
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel			Boring/Well No.: MW-05
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME Track Rig	Date/Time Started: 10/26/95 1625	Date/Time Finished: 10/30/95 1632
Logged By: K.Kutawski/ M. Plumb	Drilling Method: HSA / NX Core Barrel	Screening Device (Type, make, model): Photovac FID /Bacharach 4 Gas	

Location (survey coord):	Ground. El:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
545386.81N 569141.96E	349.9 ft.	36.5 ft.	24.5 ft	NA	8.25"(0-24.5')/4"(24.5-36.5')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1, 2	0-2		4, 2 5, 8	18	0-6"Brown moist soft clayey SILT, little f. gravel , trace m. gravel, trace f. sand 6"-18" Color change to tan, molded iron and manganese staining visible - Rolled to 1/8"	ML	f
3, 4	2-4		11, 11 11, 12	24	Tan v. stiff clayey SILT, some f. gravel (platey to subangular), trace m. gravel, trace f. sand, molded	ML	f
5, 6	4-6		5, 10 9, 8	4	Tan v. stiff clayey SILT, some f. gravel (platey to subanuglar), trace f. sand, molded	ML	f
7, 8	6-8		5, 10 9, 8	9	Tan v. stiff saturated clayey SILT, some m. gravel, trace f.-m. sand with 2" of fractured platey rock with iron staining	MH	f
9, 10	8-10		19, 14 20, 21	18	Tan v. stiff dry clayey SILT, some f. gravel (some platey), little m. gravel, trace f. sand (lodgement till)	ML	f
11, 12	10-12		19, 14 20, 21	18	Tan v. stiff wet clayey SILT, some f. gravel (some platey), little m. gravel, trace f. sand (lodgement till) 2" layer of grey fine grained m. gravel	ML	f
13, 14	12-14		5, 12 33, 37	11	Tan v. stiff dry clayey SILT, some f. gravel, trace m. gravel, trace f.-m. gravel (lodgement till)	ML	f
15, 16	14-16		5, 13 16, 24	13	Grey v. stiff CLAY and SILT, trace f. gravel, trace f. sand Rolls to 1/16" when water is added (lodgement till) Very hard, can be broken by hand with some force	CL	f
17	16-18		5, 13 16, 24	12	Grey v. stiff CLAY and SILT, trace f. gravel, trace f. sand Rolls to 1/16" when water is added (lodgement till) Very hard, can be broken by hand with some force	CL	f

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		Trace: 0 - 10%
Blows/ft	Density	Blows/ft	Density	Little: 10 - 20%
<4	V. Loose	<2	V. Soft	Some: 20 - 35%
4 - 10	Loose	2 - 4	Soft	And: 35 - 50%
10 - 30	m. Dense	4 - 8	m. Stiff	Water Content
30 - 50	Dense	8 - 15	Stiff	D - Dry
>50	V. Dense	15 - 30	V. Stiff	M - Moist
		>50	Hard	W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	Page 2 of 2
	Sampler Type/Size: 2" Split Spoon/ 5' NX Core Barrel	Boring/Well No.: MW-05

Depth (ft)	Sample Interval	Sample Number	Blows/ 6 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18							
19	18-20		13, 20 22, 36	18	Grey v. stiff CLAY and SILT, little f.-m. gravel, trace f. sand Rolls to 1/16" when water is added (lodgement till) Very hard, can be broken by hand with some force	CL	f
20 21 22	20-22		9, 8 18, 50/3"	8	Grey v. stiff CLAY and SILT, and f.-m. GRAVEL, trace f. sand Rolls to 1/16" when water is added (lodgement till) Very hard, can be broken by hand with some force Refusal at 21'3", platey pieces of rock in nose	CL	f
23 24					Roller Bit to 24.5'		
25 26 27 28 29	24.5-29.5		Min/ft. 5 6 7 9 9	48	Begin Coring at 24.5' with Step Bit Weathered shale, iron staining in fractures, white calcite veins in rock, bedding planes at 45° angles, changes in fracture direction noted from 45° angle to vertical then back to 45° angle RQD= 0		f
30 31 32 33 34	29.5-34.5		5 5 7 5	54	Weathered shale, iron staining in fractures, white calcite veins in rock, no consistant bedding can be seen, fractures vary horizontal to vertical RQD= 0		
35 36					Roller Bit to 36.5'		
37 38 39					E.O.B.- 36.5'		

Notes and Comments:

ANEPTEK CORPORATION Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08		
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel		**Boring/Well No.:** MW-07

Drilling Contractor:	**Drilling Rig Make/Model:**			**Date/Time Started**	**Date/Time Finished**
East Coast Thomas	CME Track Rig			11/8/95 1100	11/9/95 930
Logged By:	**Drilling Method:**			**Screening Device (Type, make, model):**	
M. Plumb/J. Donovan	HSA / NX Core Barrel			Photovac FID /Bacharach 4 Gas	
Location (survey coord):	**Ground. El:**	**Total Depth:**	**Bedrock Depth:**	**Water Table Depth:**	**Borehole Diameter:**
545159.95N 568999.12E	360.1 ft.	30.5 ft.	16.0 ft	NA	8.25"(0-16")/4"(16-30.5')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1, 2	0-2		1,3 6,5	10	0-2" Dark brown topsoil 2-8" Light brown stiff clayey SILT, little gravel, trace f. sand	ML	f
3, 4	2-4		9,5 6,9	16	0-16" Light brown stiff clayey SILT, some gravel, trace f. sand 16-20" Same material only wet	ML	f
5, 6	4-6		2,6 6,6	18	Light brown stiff slighty moist clayey SILT, slatey gravel	ML	f
7, 8	6-8		6,7 11,9	20	Light brown v. stiff slighty moist clayey SILT, little gravel, trace f. sand, molded	ML	f
9, 10	8-10		18,11 11,13	16	0-4" Light brown, v. stiff wet silty CLAY 4-10" Gravel layer 10-16" Light brown v. stiff dry silty CLAY	ML	f
11, 12	10-12		3,12 22,24	19	0-8" Light brown wet silty CLAY, little gravel, little f. sand (lodgement till) 8"-19" Color becomes slightly more grey 15"-19" Same material, only dry	ML	f
13, 14	12-14		14, 14 21, 28	22	Light brown v. stiff dry silty CLAY, little gravel (lodgement till)	ML	f
15, 16	14-16		5,18 43,50	19	Light brown hard silty CLAY, little gravel, top 4" wet, traces of iron staining on gravel (lodgement till)	ML	f
17	16-16.4		50/4"	4	0-2" Light brown hard silty CLAY,little gravel (lodgement till) 2-4" Grey platey gravel, no soil	ML	f

Penetration Resistance				Proportions	Notes and Comments:
Granular Soils		Cohesive Soils			
Blows/ft	Density	Blows/ft	Density		
<4	V. Loose	<2	V. Soft	Trace: 0 - 10%	
4 - 10	Loose	2 - 4	Soft	Little: 10 - 20%	
10 - 30	m. Dense	4 - 8	m. Stiff	Some: 20 - 35%	
30 - 50	Dense	8 - 15	Stiff	And: 35 - 50%	
>50	V. Dense	15 - 30	V. Stiff	Water Content	
		>50	Hard	D - Dry M - Moist W - Wet	

ANEPTEK CORPORATION Boring Log	**Client/Project/Contract No.:** ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	**Page 2 of 2**
	Sampler Type/Size: 2" Split Spoon/ 5' NX Core Barrel	**Boring/Well No.:** MW-07

Depth (ft)	Sample Interval	Sample Number	Minutes/ ft.	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
					Begin Coring at 16' with Step Bit		
18	16-21		5	16	Fractured dark grey shale, calcite veins in top 5"		f
19			7		No clear fracture pattern		
			7		RQD= 0		
20			7				
			6				
21							
	21-26		2	12	Fractured dark grey shale		f
22			3		No clear fracture pattern		
			5		RQD= 0		
23			5				
			7				
24							
25							
26							
	26-30.5		5	24	Dark grey weathered shale, multiple fractures in no clear pattern,		f
27			5		calcite veins in bottom 3"		
			4		RQD= 0		
28			4				
			4/6"				
29							
30							
31					E.O.B.- 30.5 ft.		
32							
33							
34							
35							
36							
37							
38							
39							

Notes and Comments:

Lost approximately 43 gallons of water during drilling.

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	Page 1 of 2
	Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel	Boring/Well No.: MW-09

Drilling Contractor:	Drilling Rig Make/Model:			Date/Time Started	Date/Time Finished
East Coast Thomas	CME Track Rig			11/6/95 1500	11/8/95 700
Logged By:	**Drilling Method:**			**Screening Device (Type, make, model):**	
K. Kutawski	HSA / NX Core Barrel			Photovac FID /Bacharach 4 Gas	
Location (survey coord):	**Ground. El:**	**Total Depth:**	**Bedrock Depth:**	**Water Table Depth:**	**Borehole Diameter:**
545707.49N 569212.22E	366.2 ft.	26.0 ft.	11.0 ft	NA	8.25"(0-17')/4"(17-26)

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1 2	0-2		2,2 4,4	12	0-3" Dark brown topsoil 3-12" Brown m. stiff moist clayey SILT, little f.-m. gravel, trace f. sand	ML	f
3 4	2-4		18,17 17,15	3	Brown dry v. stiff clayey SILT and f.-m. angular to subangular gravel	ML	f
5 6	4-6		5,11 11,11	17	Brown v. stiff moist clayey SILT, little f. platey, angular and subangular, molded rolls to 1/16" when water was added	ML	f
7 8	6-8		17,24 19,14	5	Brown v. stiff clayey SILT with little f. gravel, trace m. gravel, trace f. sand molded (lodgement till)	ML	f
9 10	8-10		6,4 8,6	16	Brown moist clayey SILT, little f. gravel, trace m. gravel, trace f. sand, nose of spoon wet (lodgement till)	ML	f
11 12	10-12		6,9 13,22	19	0-4" Brown v. stiff moist clayey SILT, little f. gravel, trace m. gravel, trace f. sand, rolls to 1/32" when water is added (lodgement till) 4-19" Dark grey wet pieces of platey rock, trace fines	ML	f
13 14	12-14		17,14 26,16	16	Dark grey weathered fractured platey rock, breaks in hand, scratches with knife, trace to no fines, water inside spoon		f
15	14-14.8		22 50/3"	3	Dark grey weathered fractured platey rock, breaks in hand, scratches with knife, trace to no fines		
16 17					Roller Bit to 17'		

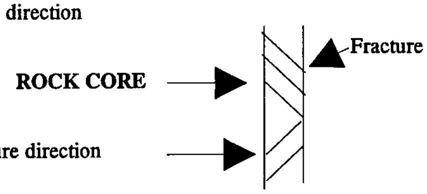
Penetration Resistance				Proportions	Notes and Comments:
Granular Soils		Cohesive Soils			
Blows/ft	Density	Blows/ft	Density	Trace: 0 - 10%	
<4	V. Loose	<2	V. Soft	Little: 10 - 20%	
4 - 10	Loose	2 - 4	Soft	Some: 20 - 35%	
10 - 30	m. Dense	4 - 8	m. Stiff	And: 35 - 50%	Lost 30 gallons of water during drilling.
30 - 50	Dense	8 - 15	Stiff	Water Content	
>50	V. Dense	15 - 30	V. Stiff	D - Dry	
		>50	Hard	M - Moist	
				W - Wet	

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.:	Page 2 of 2
ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	
Sampler Type/Size:	**Boring/Well No.:**
2" Split Spoon/ 5' NX Core Barrel	MW-09

Depth (ft)	Sample Interval	Sample Number	Minutes/ ft.	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
					Begin Coring at 17 ' with Step Bit		
18							
	17-22		6	54	Dark grey weathered shale, white calcite veins throughout,		
19			7		fractures at 45° angles along bedding planes, last 5"		f
			7		fractures change direction		
20			6		RQD= 0		
			7				
21							
22							
	22-26		3	12	Dark grey weathered shale, no secondary mineralization,		f
23			5		fractures at 45° angles along bedding planes, iron staining		
			5		in fractures		
24			7		RQD= 0		
25							
26							
					E.O.B.- 26 ft.		
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							



Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 1/ DAHA-90-93-D-003/DO-08	
	Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel	Boring/Well No.: MW-11

Drilling Contractor:	Drilling Rig Make/Model:	Date/Time Started	Date/Time Finished
East Coast Thomas	CME Track Rig	11/8/95 1100	11/9/95 930

Logged By:	Drilling Method:	Screening Device (Type, make, model):
K.Kutawski	HSA / NX Core Barrel	Photovac FID /Bacharach 4 Gas

Location (survey coord):	Ground. El:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
546123.29N 569216.33E	388.69 ft.	29.0 ft.	18.0 ft	NA	8.25"(0-19')/4"(19-29')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1 2	0-2		1,1 2,2	6	Brown clayey SILT, trace m. gravel , trace f. gravel, pieces of wood, molded	ML	f
3 4	2-4		11,8 11, 8	20	Brown moist clayey SILT, little f. gravel trace m. gravel, trace f. sand, molded	ML	f
5 6	4-6		5,5 5,8	2	Brown moist clayey SILT, little f. gravel trace m. gravel, trace f. sand, tiny pieces of platey rock molded rock in nose	ML	f
7 8	6-8		8,9 13,8	18	Brown moist clayey SILT, little to some f.-m. gravel, trace f. sand mottled	ML	f
9 10	8-10		6,4 13,10	18	Outside of spoon wet, water ran out of spoon Brown clayey SILT, some f. gravel, trace m. gravel trace trace f. sand, outside of material; wet, inside of material moist	ML	f
11 12	10-12		2,3 7,14	18	Tan saturated clayey SILT, some f. gravel, trace m. gravel little f. sand, rock in nose	ML	f
13 14	12-14		29,11 9,11	24	0-15" Tan saturated clayey SILT, some f. gravel, trace m. gravel little f. sand, rock in nose 15-24" same material, outside of material was saturated inside of material was moist	ML	f
15 16	14-16		7,16 20,19	24	Tan clayey SILT, some f. gravel, trace m. gravel little f. sand, outside of material wet, inside of material moist	ML	f
17	16-18		15,21 23,30	12	Tan slightly moist, tight clayey SILT, some f.-m. gravel, trace to little platey gravel and m. sand	ML	f

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		Trace: 0 - 10%
Blows/ft	Density	Blows/ft	Density	Little: 10 - 20%
<4	V. Loose	<2	V. Soft	Some: 20 - 35%
4 - 10	Loose	2 - 4	Soft	And: 35 - 50%
10 - 30	m. Dense	4 - 8	m. Stiff	Water Content
30 - 50	Dense	8 - 15	Stiff	D - Dry
>50	V. Dense	15 - 30	V. Stiff	M - Moist
		>50	Hard	W - Wet

Notes and Comments:

Lost approximately 30 gallons of water during drilling.

ANEPTEK CORPORATION Boring Log	**Client/Project/Contract No.:** ANG/Stewart ANGB Site 1/ DAHA-90-93-DO-008	**Page 2 of 2**
	Sampler Type/Size: 2" Split Spoon/ 5' NX Core Barrel	**Boring/Well No.:** MW-11

Depth (ft)	Sample Interval	Sample Number	Blows/ 6 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18							
19	18-19.4		20,30 50/4"	11	Dark grey very soft weathered shale, crumbles in hand iron staining between fractures, no soil, scratches easily with knife, m. gravel to sand size pieces of rock		f
20			Min/ ft		Begin Coring at 19' with Step Bit		
21 22 23 24	19-24		4.5 7 10 6 8	2	Dark grey fractured shale, no iron staining, white calcite viens throughout, too small a sample to see bedding planes or fracture orientation		f
25 26 27 28 29	24-29		4 5 5 5 6.5	53	Dark grey weathered shale -iron staining in fractures white calcite viens throughout, fractures at 45 degree angles along bedding planes RQD= 26.3%		f
30 31 32 33 34 35 36 37 38 39					E.O.B.- 29 ft.		

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08	Page 1 of 3
	Sampler Type/Size: 2' Split Spoon / 5' NX Core Barrel	Boring/Well No.: MW-14

Drilling Contractor:	Drilling Rig Make/Model:	Date/Time Started	Date/Time Finished
East Coast Thomas	CME 75	7/22/96 1610	7/26/96 1817
Logged By:	Drilling Method:	Screening Device (Type, make, model):	
C. Devonshire	HSA / NX Core Barrel	Foxboro FID 128 / Bacharach 4 Gas Meter	

Location (survey coord):	Ground El.:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
568667.17 N, 545175.11 E	408.8	57.0'	42.25'	9.3'	8"(0-16')/4"(16-57')

Depth (ft)	Sample Interval	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
0-2	0-2	MW-14 0-2	1, 3, 6, 6	11	Brown topsoil	GM	F
2-4	2-4	MW-14 2-4	9, 16, 21, 24	16	Mottled gray-brown, slightly moist, stiff to very stiff SILT and CLAY, little f.-m. sand, trace f. gravel, trace organic material (weathered till)	ML	F
4-6	4-6	MW-14 4-6	11, 17, 21, 17	13	Gray-brown, slightly moist, stiff to very stiff clayey SILT, little f.-c. sand, little f. gravel (weathered till)	ML	F
6-8	6-8	MW-14 6-8	21, 21, 13, 16	12	Brown, slightly moist, very stiff to stiff SILT, little f.-c. sand, some f.-m. gravel, slatey rock cobble fragments (weathered till)	ML	F
8-10	8-10	MW-14 8-10	4, 5, 9, 11	14	Brown, slightly moist to wet, medium stiff to stiff SILT, some f.-c. sand, little f.-m. gravel (weathered till)	ML	F
10-12	10-12	MW-14 10-12	8, 10, 17, 13	24	Brown, saturated, stiff SILT, little m.-c. sand, little f.-m. gravel (weathered till)	ML	F
12-14	12-14	MW-14 12-14	16, 32, 33, 46	24	Brown, saturated, hard SILT, little m.-c. sand, little f.-m. gravel (weathered till)	ML	F
14-15.5	14-15.5	MW-14 14-15.5	51, 47, 106	10	Brown, slightly moist, hard SILT, trace f.-c. sand, trace f. gravel, cobble fragments (weathered till)	ML	F
16					Roller Bit to 16.5'		

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		
Blows/ft	Density	Blows/ft	Density	
<4	V. Loose	<2	V. Soft	Trace: 0 - 10%
4 - 10	Loose	2 - 4	Soft	Little: 10 - 20%
10 - 30	M. Dense	4 - 8	M. Stiff	Some: 20 - 35%
30 - 50	Dense	8 - 15	Stiff	And: 35 - 50%
>50	V. Dense	15 - 30	V. Stiff	Water Content: D - Dry
		>50	Hard	M - Moist, W - Wet

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08	Page 2 of 3
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: MW-14

(ft)	Sample Interval	Sample Number	Minutes/ 12-in.	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
17 18	16.5-18.5	No sample	1 2	0	Began coring at 16.5' with Series 8 diamond bit. No sample recovered. 20 gallons of water lost		
19 20 21 22 23	18.5-23.5	MW-14 18.5-23.5	2 4 8 3 3	28	Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till) 22.5'-23.5' - Sandstone boulder fragment 30 gallons of water lost	ML	F
24 25 26 27 28	23.5-28.5	MW-14 23.5-28.5	4 5 6 2 4	18	Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till)	ML	F
29 30 31 32	28.5-32	MW-14 28.5-32	2 1 1 .5(6")	36	Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till)	ML	F
33 34 35 36 37	32-37	MW-14 32-37	1 1 1 1 1	60	Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till)	ML	F
38	37-38.33		NR	14	Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till)	ML	F

Notes and Comments: NR - not recorded

1) Drilling was stopped at 37.5' due to noises in drill rig. Noises were due to vibrations caused by a worn drill bit. The series 8 diamond bit was replaced with a series 8 diamond step bit. Hole had to be reamed out due to the width of the new bit.

2) Rain prevented use of the FID for several intervals, so a Bacharach 4-gas meter (0_2, CO, H_2S, LEL) was used for screening.

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08

Sampler Type/Size: NX 5' Core Barrel

Boring/Well No.: MW-14

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12-in.	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
38							
39 40 41 42	38.32-42	MW-14 38.3-42	NR 2 1 2	36	Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till)	ML	F
43 44 45 46 47	42-47	Run 1	4 4 3 3 2	24	42'-42.25' - Gray, saturated, hard SILT and CLAY, trace f. sand, some f.-c. gravel, cobble fragments (lodgment till) 42.25'-44' - Gray, soft shale weathered to rubble, heavily oxidized, few calcite veinlets, bedding plane 45° to horiz., non-planar open fractures along bedding, 6-12 frac./ft., trace sand, silt and clay within fractures, non-planar vertical joints with secondary quartz mineralization and oxidation at 45.9' and 46'. RQD=0% 44'-47' - no recovery	ML	F
48 49 50 51	47-51.5	Run 2	3 3 6 7 NR	31	47'-49' - no recovery 49'-49.5' - loose shale rubble 49.5'-50.5' - Gray, soft shale weathered to rubble, oxidized, bedding plane 70° to horiz. 10-20 fractures/ft. 50' - vuggy solution cavities and quartz veinlet 50.5'-51' - bedding plane 45° to horiz. 51'-51.5' - Gray, soft competent shale, 0 fractures. RQD=19%		F
52 53 54 55 56	51.5- 56.1	Run 3	6 7 5 7 6(8")	46	51.5'-53' - Gray, soft, competent shale, drill-induced fractures along bedding, bedding 50° to horizon., pyrite along bedding, some calcite veinlets 53' -53.8' - grades to fine-grained, silty sandstone 53.8' - open frac. w/secondary min., incr. calcite veinlets 53.8-55.32' - Gray, soft shale, tight non-planar subvert. joint at 54', planar fracture along bedding with oxidation at 55'. RQD=92% 55.32'-56.1 - no recovery		F
57					Roller Bit to 57'		
					E.O.B. - 57'		

Notes and Comments: NR - not recorded

ANEPTEK CORPORATION
Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04					
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel					**Boring/Well No.:** SB-01
Drilling Contractor: East Coast Thomas	**Drilling Rig Make/Model:** CME Track Rig			**Date/Time Started** 10/2/95 1713	**Date/Time Finished** 10/4/95 1327
Logged By: R. Ramuglia	**Drilling Method:** HSA / NX Core Barrel			**Screening Device (Type, make, model):** HNU PID 10.2 eV	
Location (survey coord): 545867.0N 568658.4E	**Ground. El:** 433.8 ft.	**Total Depth:** 50 ft.	**Bedrock Depth:** 40 ft	**Water Table Depth:** NA	**Borehole Diameter:** 8.25"(0-10')/3"(10-50')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1, 2	0-2	SB-01-02	7,13 12,19	22	0-4" Brown topsoil with roots 4-12" Tan m. dense brown SILT, little gravel, little m.-c. sand 12-22" Grey-brown dense SILT, some gravel, some m.-c. sand	ML	ϕ
3, 4					HSA to 4'		
5, 6	4-6	SB-01-06	6,16 20,21	16	Grey soft loose SILT, some f. gravel, little f. sand, trace clay	ML	ϕ
7, 8, 9					HSA to 9'		
10	9-10	SB-01-10	13 50/6"	12	Grey stiff SILT, some clay, little f. sand, little c. sand, trace gravel, refusal at 10'	ML	ϕ
11, 12, 13	10-13	SB-01-13	Min/ ft 8 4 7	18	Begin Coring at 10' with Popcorn Bit 10-11' Boulder 11-13' Grey very dense CLAY, f.-m. gravel, little silt (lodgement till)	CL	ϕ
14, 15	13-15		16 10	20	Switched to Step Bit because material was too hard Grey hard CLAY and f.-m. GRAVEL, little silt, 2 boulders, can be rolled to 1/8" when wet (lodgement till)	CL	ϕ
16, 17	15-18.5	SB-01-18.5	1.5 1.5 2	42	Grey hard CLAY and f.-m. GRAVEL, some silt, slightly plastic (lodgement till) (Lost approximately 35-40 gallons of water)	CL	ϕ

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		Trace: 0 - 10%
Blows/ft	Density	Blows/ft	Density	Little: 10 - 20%
<4	V. Loose	<2	V. Soft	Some: 20 - 35%
4 - 10	Loose	2 - 4	Soft	And: 35 - 50%
10 - 30	m. Dense	4 - 8	m. Stiff	**Water Content**
30 - 50	Dense	8 - 15	Stiff	D - Dry
>50	V. Dense	15 - 30	V. Stiff	M - Moist
		>50	Hard	W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANGRC/Stewart ANG/ DAHA-90-93-D-0003/DO-04	Page 2 of 3
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: SB-01

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18							
19 20	18.5-20				Roller Bit through boulders 18.5'-20.0'		
21 22 23 24 25	20-25	SB-01-25	2 5 2.5 2 1.5	54	Grey very stiff CLAY and f.-m. gravel, trace f.-c. sand, trace to little silt, trace cobbles (lodgement till) Rolls to 1/8" when wet	CL	ϕ
26 27	25-27.5	SB-01-27.5	3 2	30	Grey very stiff CLAY and f.-m. gravel, trace f.-c. sand, trace to little silt, trace cobbles (lodgement till) Rolls to 1/8" when wet Bottom 6" Brown tinge	CL	ϕ
28 29 30	27.5-30				Roller Bit 27.5' to 30.0'		
31 32 33	30-32.5	SB-01-32.5	2 2		Grey-brown hard CLAY and f.-m. gravel, trace f.-c. sand, trace to little silt, trace cobbles (lodgement till) Rolls to 1/8" when wet	CL	ϕ
34 35	32.5-35				Roller Bit 32.5 to 35'		
36 37	35-37				NO RECOVERY		
38 39 39					Roller Bit 37' to 40'		

Notes and Comments:
Lost 800 gallons of water. Water being lost in top 10' where the augers are seated. Ground around drilling mounding due to water build up.

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANGRC/Stewart ANG/ DAHA-90-93-D-0003/DO-04	Page 3 of 3
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: SB-01

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
40	40-45		3.5 4 3 7 4	48	No soil recovery Weathered shale - dark-blue grey, fine grained, iron staining throughout, bedding planes dipping approximately 40°-45°, fractures along bedding planes, iron staining visible in fractures, no secondary mineralization, can be scratched easily with knife RQD=0		ϕ
45	45-50		5.5 6 6 6 4.5	54	Weathered shale - dark-blue grey, fine grained, iron staining throughout, bedding planes dipping approximately 40°-45°, fractures along bedding planes, iron staining and m. grey sand visible in fractures, no secondary mineralization, can be scratched easily with knife RQD=0		ϕ
50					E.O.B.- 50 ft		

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ANEPTEK CORPORATION
Boring Log

Client/Project/Contract No.: ANG/Stewart ANG Site 2/ DAHA-90-93-D-0003/DO-04		
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel		Boring/Well No.: SB-02

Drilling Contractor:	Drilling Rig Make/Model:	Date/Time Started	Date/Time Finished
East Coast Thomas	CME Track Rig	10/4/95 1612	10/4/95 1900

Logged By:	Drilling Method:	Screening Device (Type, make, model):
K.Kutawski	HSA / NX Core Barrel	HNU PID 10.2 eV

Location (survey coord):	Ground. El:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
545937.3N 568681.2E	434.5 ft.	24 ft.		NA	8.25"(0-10')/3"(10-24')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1, 2	0-2	SB-02-02	9,12 25,27	21	0-5" Brown topsoil with roots, little f. gravel Tan v. stiff clayey SILT, little f. sand, trace f. gravel	ML	ϕ
3, 4					HSA to 4'		
5, 6	4-6	SB-02-06	6,22 31,30	22	4.0'-4'4" Tan clayey SILT, little f. sand, trace f. gravel 4'4"-6.0' Grey hard clayey SILT, little f.-m. gravel (lodgment till)	ML	ϕ
7, 8, 9					HSA to 9'		
10	9-10.2	SB-02-10.2	10,42 50/2"	10	Grey hard clayey SILT, some f.-m. sand, trace c. sand, trace f. gravel	ML	ϕ
11, 12, 13, 14, 15			Min/ft		HSA to 15' Begin Coring with Step Bit		
16, 17	15-19		2 6 3 3.5		NO RECOVERY Rock jammed in barrel		

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		
Blows/ft	Density	Blows/ft	Density	
<4	V. Loose	<2	V. Soft	Trace: 0 - 10%
4 - 10	Loose	2 - 4	Soft	Little: 10 - 20%
10 - 30	m. Dense	4 - 8	m. Stiff	Some: 20 - 35%
30 - 50	Dense	8 - 15	Stiff	And: 35 - 50%
>50	V. Dense	15 - 30	V. Stiff	Water Content
		>50	Hard	D - Dry
				M - Moist
				W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANG Site 2/ DAHA-90-93-D-0003/DO-04	Page 2 of 2
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: SB-02

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18					Roller Bit to 19'		
19							
20	19-24		1		NO RECOVERY - Grey fine grained rock jammed in core barrel		
21			1.5				
22			1				
			1				
23							
24							
25					E.O.B.- 24 ft		
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

Notes and Comments:

500-600 gallons of water lost during drilling.

ANEPTEK CORPORATION Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04					
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel				**Boring/Well No.:** SB-03	
Drilling Contractor: East Coast Thomas	**Drilling Rig Make/Model:** CME Track Rig			**Date/Time Started** 10/5/95 1300	**Date/Time Finished** 10/5/95 1615
Logged By: K.Kutawski	**Drilling Method:** HSA / NX Core Barrel			**Screening Device (Type, make, model):** HNU PID 10.2 eV	
Location (survey coord): 545967.4N 568675.0E	**Ground. El:** 435.1 ft.	**Total Depth:** 24 ft.	**Bedrock Depth:** NA	**Water Table Depth:** NA	**Borehole Diameter:** 8.25"(0-10')/3"(10-22')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1	0-1.3	SB-03-1.3	16, 24 50/3"	12	0-4" Brown topsoil with roots and grass Brown clayey SILT, little f.-c. gravel	ML	ϕ
2, 3, 4					HSA to 4'		
5, 6	4-6	SB-03-06	12,16 21,20	18	Grey hard SILT, some f. sand, trace clay (lodgement till)	ML	ϕ
7, 8, 9					HSA to 9'		
10	9-10.3	SB-03-10.3	28,38 50/3"	16	9'-9'5" Grey hard moist SILT, some f. sand, trace clay 9'5"-10'3" Grey hard tight, dry CLAY, little f. sand, trace f. gravel, trace silt, rolled to 1/16" when water was added	ML	ϕ
11, 12					HSA to 12'		
13, 14, 15, 16, 17	13-17		Min/ft 2 3 3 4 5	36	Begin Coring at 12' with Step Bit Grey CLAY, some f.-c. gravel, some silt, trace m. sand, 3 cobbles (2 grey f. grained, 1 red), can be rolled to 1/8" when water was added (lodgement till)	CL	ϕ

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		Trace: 0 - 10%
Blows/ft	Density	Blows/ft	Density	Little: 10 - 20%
<4	V. Loose	<2	V. Soft	Some: 20 - 35%
4 - 10	Loose	2 - 4	Soft	And: 35 - 50%
10 - 30	m. Dense	4 - 8	m. Stiff	**Water Content**
30 - 50	Dense	8 - 15	Stiff	D - Dry
>50	V. Dense	15 - 30	V. Stiff	M - Moist
		>50	Hard	W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	**Client/Project/Contract No.:** ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04	**Page 2 of 2**
	Sampler Type/Size: 5' NX Core Barrel	**Boring/Well No.:** SB-03

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
	17-22	SB-03-22	4	52	Grey CLAY, some f.-c. gravel, some silt, trace m. sand, 6 cobbles (lodgement till)	CL	ϕ
18			3				
			3				
19			2				
			3				
20							
21							
22					Roller Bit to 24'		
23							
24					E.O.B.- 24 ft		
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

Notes and Comments:

ANEPTEK CORPORATION Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04		
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel		**Boring/Well No.:** SB-04

Drilling Contractor: East Coast Thomas	**Drilling Rig Make/Model:** CME Track Rig			**Date/Time Started** 10/6/95 730	**Date/Time Finished** 10/6/95 1200
Logged By: K.Kutawski	**Drilling Method:** HSA /NX Core Barrel			**Screening Device (Type, make, model):** HNU PID 10.2 eV	
Location (survey coord): 545997.2N 568685.1E	**Ground. El:** 436 ft.	**Total Depth:** 23 ft.	**Bedrock Depth:** NA	**Water Table Depth:** NA	**Borehole Diameter:** 8.25"(0-14')/3"14-21')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
0–2	0-2	SB-04-02	4,9 12,15	18	0-5" Dark brown topsoil with roots and grass 5-18" Brown v. stiff clayey SILT, trace f.-m. gravel, trace f. sand	ML	ϕ
2–4					HSA to 4'		
4–6	4-6	SB-04-06	11,26 34,25	17	Light brown hard clayey SILT, some f.-m. sand, trace f.-m. gravel	ML	ϕ
6–9					HSA to 9'		
9–11	9-11	SB-04-11	17,27 30,50	22	Grey hard CLAY, little silt, trace f.-m. platey and subangular gravel (lodgement till)	CL	ϕ
11–14					HSA to 14'		
14–18	14-18	SB-04-16	Min/ft 3 3 2 4	53	Begin Coring at 14' with Step Bit Grey CLAY, some f.-c. gravel, some f.-c. sand, little silt, 1 cobble (lodgement till)	CL	ϕ

Penetration Resistance

Granular Soils Blows/ft	Granular Soils Density	Cohesive Soils Blows/ft	Cohesive Soils Density
<4	V. Loose	<2	V. Soft
4 - 10	Loose	2 - 4	Soft
10 - 30	m. Dense	4 - 8	m. Stiff
30 - 50	Dense	8 - 15	Stiff
>50	V. Dense	15 - 30	V. Stiff
		>50	Hard

Proportions
Trace: 0 - 10%
Little: 10 - 20%
Some: 20 - 35%
And: 35 - 50%

Water Content
D - Dry
M - Moist
W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	**Client/Project/Contract No.:** ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04	**Page 2 of 2**
	Sampler Type/Size: 5' NX Core Barrel	**Boring/Well No.:** SB-04

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18							
19	18-22	SB-08-22	3 2 3 3 3	24	Grey CLAY, some f.-c. gravel, some f.-c. sand, little silt, few cobbles (lodgement till)	CL	ϕ
20							
21							
22							
23					Roller Bit to 23'		
24					E.O.B.- 23 ft.		
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

Notes and Comments:

Series 2 Bit used

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04	Page 1 of 2
	Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel	Boring/Well No.: SB-05

Drilling Contractor:	Drilling Rig Make/Model:	Date/Time Started	Date/Time Finished
East Coast Thomas	CME Track Rig	10/10/95 1050	10/10/95 1440

Logged By:	Drilling Method:	Screening Device (Type, make, model):
K.Kutawski	HSA / NX Core Barrel	HNU PID 10.2 eV

Location (survey coord):	Ground. El:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
546013.4N 568709.2E	435.8 ft.	22 ft.		NA	8.25"(0-13')/3"(13-22')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1	0-2	SB-05-02	2,15 10,15	7	Brown m. dense SILT, some f. sand, trace clay Rock in nose	ML	ϕ
2							
3					HSA to 4'		
4							
5	4-6	SB-05-06	5,6 5,10	9	Brown m. dense SILT, some f. sand, some f.-c. gravel, trace clay Color change to grey in bottom 2 "	ML	ϕ
6							
7					HSA to 8'		
8							
9	8-10	SB-05-10	8,11 17,27	24	8.0'-9'2" Grey m. dense f. SAND, some silt, trace clay 9'2"-10.0' Grey hard CLAY, some silt, trace f. sand (lodgement till)	SM CL	ϕ
10							
11					Roller Bit to 14'		
12							
13							
14							
15	14-17	SB-05-17	Min/ft 2 2.5 5	12	Begin Coring at 14' with Step Bit Grey CLAY, and f.-c. GRAVEL, some silt, trace f. sand (lodgement till)	CL	ϕ
16							
17							

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		
Blows/ft	Density	Blows/ft	Density	Trace: 0 - 10%
<4	V. Loose	<2	V. Soft	Little: 10 - 20%
4 - 10	Loose	2 - 4	Soft	Some: 20 - 35%
10 - 30	m. Dense	4 - 8	m. Stiff	And: 35 - 50%
30 - 50	Dense	8 - 15	Stiff	Water Content
>50	V. Dense	15 - 30	V. Stiff	D - Dry
		>50	Hard	M - Moist
				W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-003/DO-04	Page 2 of 2
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: SB-05

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18	17-22	SB-05-22	3	24	Grey CLAY, and f.-c. GRAVEL, some silt, trace m. sand, cobbles - approximately 1 ft of gravel (lodgement till)		
			3				
19			2			CL	ϕ
			7				
20			2				
21							
22					E.O.B. -22 ft		
23							
24							
25							
26							
27							
28							
29							
30							
31							
32							
33							
34							
35							
36							
37							
38							
39							

Notes and Comments:

200 gallons of water lost during coring.

ANEPTEK CORPORATION
Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04					
Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel				**Boring/Well No.:** SB-06	
Drilling Contractor: East Coast Thomas	**Drilling Rig Make/Model:** CME Track Rig		**Date/Time Started** 10/10/95 1730	**Date/Time Finished** 10/12/95 945	
Logged By: K.Kutawski	**Drilling Method:** HSA / NX Core Barrel		**Screening Device (Type, make, model):** HNU PID 10.2 eV		
Location (survey coord): 545979.4N 568731.1E	**Ground. El:** 434.6 ft.	**Total Depth:** 41 ft.	**Bedrock Depth:** 36 ft.	**Water Table Depth:** NA	**Borehole Diameter:** 8.25"(0-22) / 3"(22-41')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1 2	0-2	SB-06-02	4,12 16,22	12	Brown v. stiff clayey SILT, little gravel, little m.-c. sand	ML	ϕ
3 4					HSA to 4'		
5 6	4-6	SB-06-06	4,9 13,19	14	Brown v. stiff clayey SILT, some f.-m. gravel, some f. sand	ML	ϕ
7 8 9					HSA to 9'		
10 11	9-11	SB-06-11	20,58 50,3	18	Brown v. stiff clayey SILT, some f.-m. sand, little f.-m. gravel Color change to grey at 10' 10'7"-11' Grey v. stiff clayey SILT, trace f. sand (lodgement till)	ML	ϕ
12 13 14					HSA to 14'		
15 16	14-16	SB-06-16	5,12 26,27	14	14'10"-15'5" Grey v. stiff clayey SILT, some f.-m. sand 15'5"-16' Grey hard CLAY, some silt, trace f. sand, shiny when pressed with knife blade (lodgement till)	ML	ϕ
17							

Penetration Resistance				Proportions
Granular Soils		Cohesive Soils		
Blows/ft	Density	Blows/ft	Density	
<4	V. Loose	<2	V. Soft	Trace: 0 - 10%
4 - 10	Loose	2 - 4	Soft	Little: 10 - 20%
10 - 30	m. Dense	4 - 8	m. Stiff	Some: 20 - 35%
30 - 50	Dense	8 - 15	Stiff	And: 35 - 50%
>50	V. Dense	15 - 30	V. Stiff	**Water Content**
		>50	Hard	D - Dry
				M - Moist
				W - Wet

Notes and Comments:

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.:	Page 2 of 2
ANGRC/Stewart ANG/ DAHA-90-93-D-0003/DO-04	
Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: SB-06

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18 19					HSA to19'		
20	19-20.4		24,62 50/4"	13	Grey hard CLAY, some silt, little f.-m. gravel (higher than last interval) (lodgement till)	CL	ϕ
21 22					Roller Bit to 22.5'		
23 24 25 26	22.5-26.5	SB-06-26.5	Min/ft. 5 4 6 5	48	Begin coring at 22.5' with Step Bit Grey very stiff dense CLAY, some f.-m. gravel, some silt, little f.-c. sand (lodgement till)	CL	ϕ
27 28 29 30 31	26.5-31.5		2 6 10 4 5	12	Recovery 11' of rock - m. gravel, 2 cobbles 1" grey very stiff dense CLAY, some f.-m. gravel, some silt, little f.-c. sand (lodgement till)	CL	ϕ
32 33 34	31.5-34.5		10 6	22	0-9" Weathered shale fractures along bedding planes at 45° 9-11" Grey moist CLAY - can be rolled 1/16" w/o water 11-16" Weathered shale fractures along bedding planes at 45° 16-21" Brown moist grey-green CLAY, f. gravel rolled to 1/16" 21-22" Weathered shale Roller Bit from 34.5' to 36'		ϕ
35	34.5-36						
36 37 38 39 41	36-41	5 4 4 3 5		24	Weathered shale - dark-blue grey, fine grained, iron staining throughout, bedding planes dipping approximately 30°, fractures along bedding planes, iron staining visible in fractures, no secondary mineralization, can be scratched easily with knife RQD=0 E.O.B.- 41 ft.		ϕ

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04	Page 1 of 2
	Sampler Type/Size: 2' Split Spoon/ 5' NX Core Barrel	Boring/Well No.: SB-07

Drilling Contractor:	Drilling Rig Make/Model:			Date/Time Started	Date/Time Finished
East Coast Thomas	CME Track Rig			10/12/95 1400	10/13/95 900
Logged By:	Drilling Method:			Screening Device (Type, make, model):	
K.Kutawski	HSA / NX Core Barrel			HNU PID 10.2 eV	
Location (survey coord):	Ground. El:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
545949.3N 568724.3E	433.4 ft.	35 ft.	32 ft. 9in.	NA	8.25"(0-10')/3"(10-50')

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1, 2	0-2	SB-07-02	3,12 13,9	11	0-4" Brown topsoil clayey silt with roots Brown m. dense clayey SILT, some f.-m. gravel, little f.-m. sand	ML	ϕ
3, 4					HSA to 4 '		
5, 6	4-6	SB-07-06	8,38 53,50/4"	18	Brown hard clayey SILT, some f.-m. gravel, little m.-c. sand (lodgement till)	ML	ϕ
7, 8, 9					HSA to 9'		
10, 11	9-11	SB-01-11	21,40 55,50/4"	18	Grey hard clayey SILT, some f.-m. platey & subangular gravel, little m.-c. sand, can be rolled to between 1/4" and 1/16" when wet (lodgement till)	ML	ϕ
12, 13, 14					HSA to 14'		
15, 16	14-16	SB-07-16	32,22 50/3"	6	Grey hard clayey SILT, some f.-m. sand, trace f.-m. gravel 15'11"-16' Grey hard CLAY, some silt, trace f. sand (shiny when pressed with knife blade) (lodgement till)	ML	ϕ
17					Roller Bit to 18'		

Penetration Resistance				Proportions	Notes and Comments:
Granular Soils		Cohesive Soils			
Blows/ft	Density	Blows/ft	Density	Trace: 0 - 10%	
<4	V. Loose	<2	V. Soft	Little: 10 - 20%	
4 - 10	Loose	2 - 4	Soft	Some: 20 - 35%	
10 - 30	m. Dense	4 - 8	m. Stiff	And: 35 - 50%	
30 - 50	Dense	8 - 15	Stiff	Water Content	
>50	V. Dense	15 - 30	V. Stiff	D - Dry	
		>50	Hard	M - Moist	
				W - Wet	

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.:	Page 2 of 2
ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04	
Sampler Type/Size: 5' NX Core Barrel	**Boring/Well No.:** SB-07

Depth (ft)	Sample Interval	Sample Number	Minutes/ 12 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18							
19					Begin Coring at 18' with Carbide Bit		
	18-23	SB-07-23	3.5	6	Rock jammed in barrel		ϕ
20			3		Grey fine grained gravel recovered		
			4				
21			4.5				
			6				
22							
23							
	23-28	SB-07-25	4	56	Changed from Carbide Bit to Series 6 bit at 23'		
24			2		Grey very stiff dense CLAY, some f.-m. gravel, some SILT,	CL	ϕ
		SB-17-25	2.5		little f.-c. sand (lodgement till)		
25		Duplicate	3.5		Rolls to 1/16" when wet		
			3				
26							
27							
28							
	28-33	SB-07-33	3	48	Grey very stiff dense CLAY, some f.-m. gravel, some SILT,		
29			3		little f.-c. sand (lodgement till)		
		SB-17-33	3		Rolls to 1/16" when wet		ϕ
30		Duplicate	3		32'9"-33' Weathered shale		
			5		Weathered shale - dark-blue grey, fine grained, iron staining		
31					throughout, bedding planes dipping approximately 45°,		
					fractures along bedding planes, iron staining visible in		
32					fractures, no secondary mineralization, can be scratched easily		
					with knife		
33					RQD=0		
	33-35		10	14	Weathered shale - same description as above		ϕ
34			7		RQD=0		
			6				
35							
					E.O.B.- 35 ft		
36							
37							
38							
39							

Notes and Comments:

ANEPTEK CORPORATION

Boring Log

Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04			
Sampler Type/Size: 2' Split Spoon			Boring/Well No.: SB-08/MW-13
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME Track Rig	Date/Time Started: 10/6/95 730	Date/Time Finished: 10/6/95 1200
Logged By: K.Kutawski	Drilling Method: HSA	Screening Device (Type, make, model): HNU PID 10.2 eV	

Location (survey coord):	Ground. El:	Total Depth:	Bedrock Depth:	Water Table Depth:	Borehole Diameter:
545914.49N 568747.42E	433.1 ft.	21 ft.	NA	NA	8.25"

Depth (ft)	Sample Interval (ft)	Sample Number	Blows/ 6-in.	Rec. (in.)	Lithologic Description	USCS Class.	FID (ppm)
1	0-2	SB-08-02	7,8 8,13	22	Brown v. stiff clayey SILT, some f.-m. gravel, trace f. sand Note: Tiny pieces of white cloth and two pieces of black plastic in sample (fill)	ML	ϕ
2							
3					HSA to 4'		
4							
5	4-6	SB-08-06	2,2 2,4	12	Grey-green soft moist CLAY, some silt, little f. gravel, trace f. sand, shiny when pressed with knife, gravel outside of spoon was wet	ML	ϕ
6							
7					HSA to 9'		
8							
9							
10	9-10.9	SB-08-11	19,37 56,50/3"	22	Grey-green hard dry clayey SILT, little f.-m. gravel (mostly platey with tiny pieces of red sandstone), trace f. sand, rolls to 1/32" when water is added (lodgement till)	CL	ϕ
11							
12					HSA to 14'		
13							
14	14-14.5	SB-08-14.5			Same descripition as 9-10.9 ft interval	ML	ϕ
15							
16	15-16.4	SB-08-16.4 SB-08-16.4 Duplicate	33,53 50/4"		Grey dry hard clayey SILT, little f.-m. gravel (mostly platey) with tiny pieces of red sandstone, trace f. sand, rolls to 1/32" with water	CL	ϕ
17							

Penetration Resistance

Granular Soils Blows/ft	Granular Soils Density	Cohesive Soils Blows/ft	Cohesive Soils Density
<4	V. Loose	<2	V. Soft
4 - 10	Loose	2 - 4	Soft
10 - 30	m. Dense	4 - 8	m. Stiff
30 - 50	Dense	8 - 15	Stiff
>50	V. Dense	15 - 30	V. Stiff
		>50	Hard

Proportions

Trace: 0 - 10%
Little: 10 - 20%
Some: 20 - 35%
And: 35 - 50%

Water Content

D - Dry
M - Moist
W - Wet

Notes and Comments:

ANEPTEK CORPORATION Boring Log	Client/Project/Contract No.: ANG/Stewart ANGB Site 2/ DAHA-90-93-D-0003/DO-04	Page 2 of 2
	Sampler Type/Size: 5' NX Core Barrel	Boring/Well No.: SB-08/MW-13

Depth (ft)	Sample Interval	Sample Number	Blows 6 in	Rec. (in.)	Lithologic Description	USCS Class.	PID/FID (ppm)
18 19					HSA to 19'		
20 21	19-21	SB-08-21	13,19 18,16	17	0-14"Grey dry clayey SILT, some f.-m. platey to subangular gravel (lodgement till) 14-17" Color change to darker grey and tighter material, rolls to 1/32" when water is added	ML	ϕ
22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39					E.O.B.- 21 ft.		

Notes and Comments:

APPENDIX E

MONITORING WELL CONSTRUCTION LOGS

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-01
	Logged By: M.Plumb/ J.Donovan	Date/Time Started: 10/31/95 0700	Date/Time Finished: 9/19/95 1630

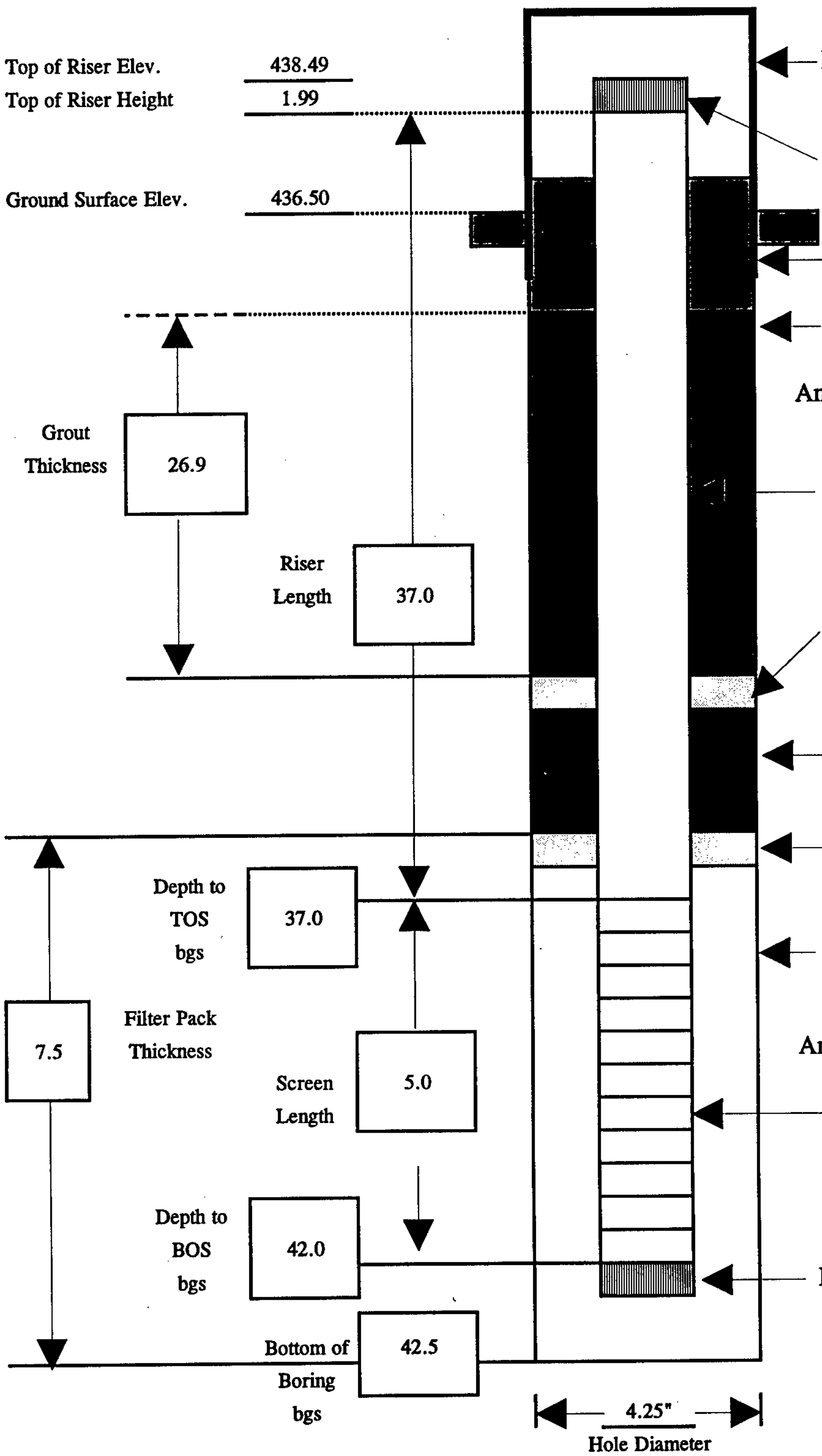
Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME Track Rig	HSA/ NX Core Barrel

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 546067.5000
Easting (X): 568494.8600

Top of Riser Elev. 438.49
Top of Riser Height 1.99
Ground Surface Elev. 436.50



Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Cement & Bentonite
Amount Used: 100 lbs Cement
10 lbs. Bentonite

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 3.0

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 28.5

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

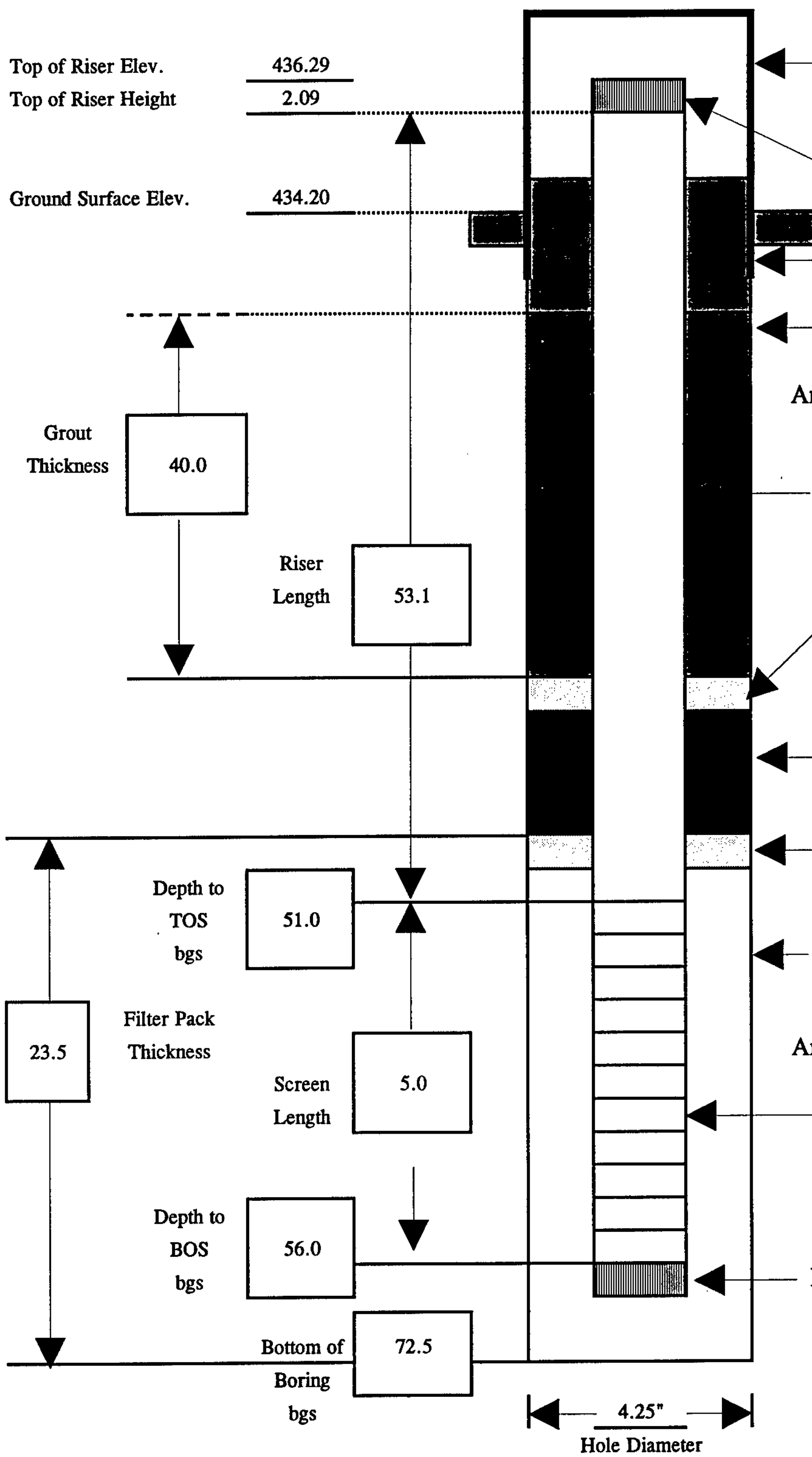
TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-04
	Logged By: M.Plumb	Date/Time Started 11/15/95 1330	Date/Time Finished 11/16/95 1230
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME Track Rig	Drilling Method: HSA/ NX Core Barrel	

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545635.4500
Easting (X): 568377.8100



Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Concrete

Grout
Type: Cement & Bentonite
Amount Used: 180 lbs Cement
20 lbs. Bentonite

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 4.0

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 89 lbs

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

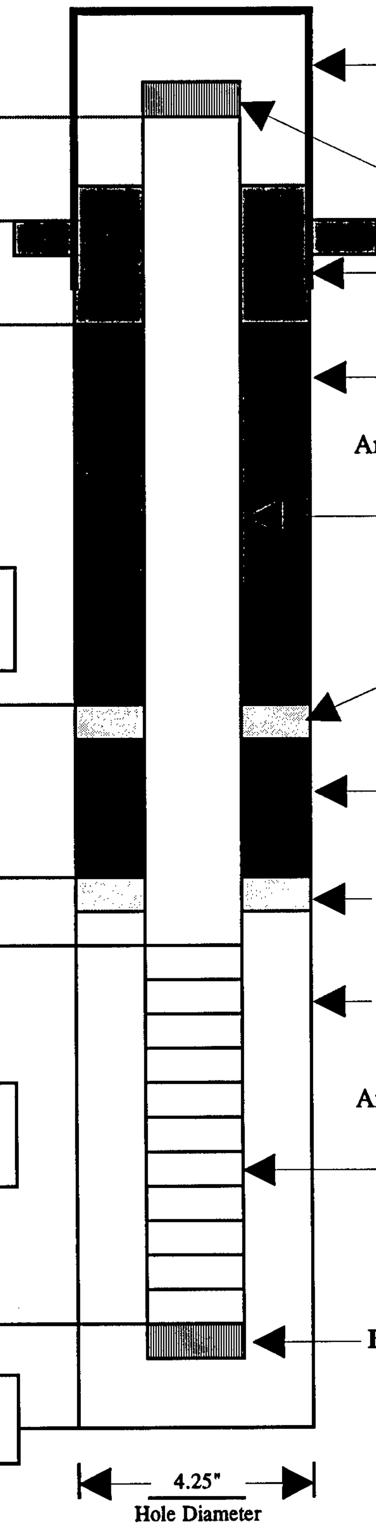
TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-05
	Logged By: M. Plumb/J. Donovan	Date/Time Started: 10/13/95 0700	Date/Time Finished: 10/31/95 1430
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME Track Rig	Drilling Method: HSA/ NX Core Barrel	

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545386.8100
Easting (X): 569141.9500



Top of Riser Elev. 352.28
Top of Riser Height 2.38
Ground Surface Elev. 349.90
Grout Thickness 16
Riser Length 32.38
Depth to TOS bgs 30.0
Filter Pack Thickness 7.7
Screen Length 5.0
Depth to BOS bgs 35.0
Bottom of Boring bgs 35.7
4.25" Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Cement & Bentonite
Amount Used: 10 lbs. Bentonite/100 lbs. Cement

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 7

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 30 lbs.

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap:

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-06
	Logged By: M.Plumb/J.Donovan	Date/Time Started 10/31/95 1530	Date/Time Finished 11/1/95 900

Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME Track Rig	HSA

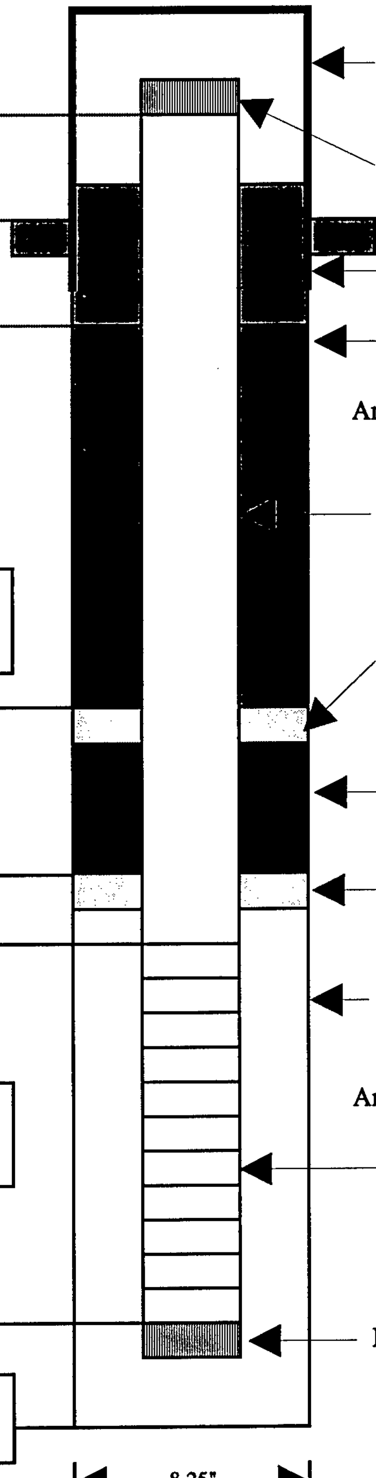
All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545379.1100
Easting (X): 569140.6500

Top of Riser Elev. 352.53
Top of Riser Height 2.63

Ground Surface Elev. 349.90



Grout Thickness 1.0

Riser Length 7.63

Depth to TOS bgs 5.0

Filter Pack Thickness 7.4

Screen Length 5.0

Depth to BOS bgs 10.0

Bottom of Boring bgs 10.4

8.25" Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Con crete

Grout
Type: Bentonite Chips
Amount Used: 30 lbs

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 1.0

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 53 lbs

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

WCL06.XLS

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-07
	Logged By: M.Plumb	Date/Time Started 11/2/95 0900	Date/Time Finished 11/2/95 1730
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME Track Rig	Drilling Method: HSA/ NX Core Barrel	

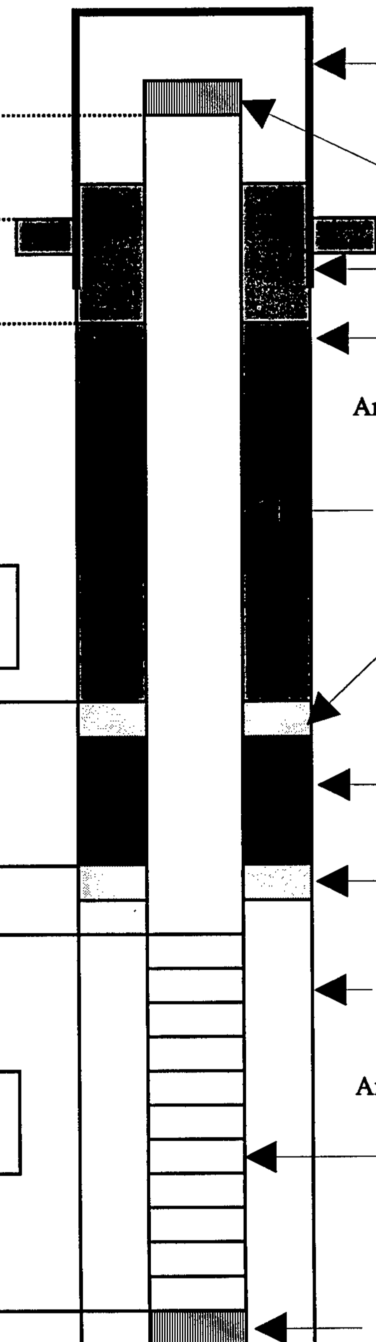
All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545159.9500
Easting (X): 568999.1200

Top of Riser Elev. 362.77
Top of Riser Height 2.67
Ground Surface Elev. 360.10

Grout Thickness 15.38
Riser Length 27.42
Depth to TOS bgs 24.75
Filter Pack Thickness 7.5
Screen Length 5.0
Depth to BOS bgs 29.75
Bottom of Boring bgs 30.9



4.25" Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Cement & Bentonite
Amount Used: 70 lbs. Cement
7 lbs. Bentonite

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 3.0

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 0.5

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 29 lbs.

Well Screen
Material: Sched 40 PVC
Diameter: 2 ''
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

ANEPTEK CORPORATION
Well Completion Log

Client/Project/Contract No.:	Well/Boring No.:
ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08	MW-08

Logged By:	Date/Time Started	Date/Time Finished
M.Plumb/J.Donovan	11/3/95 1400	11/3/95 1630

Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME Track Rig	HSA/ NX Core Barrel

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545163.3200
Easting (X): 569006.9500

Top of Riser Elev. 362.14
Top of Riser Height 2.74
Ground Surface Elev. 359.40

Grout Thickness 2.3

Riser Length 14.04

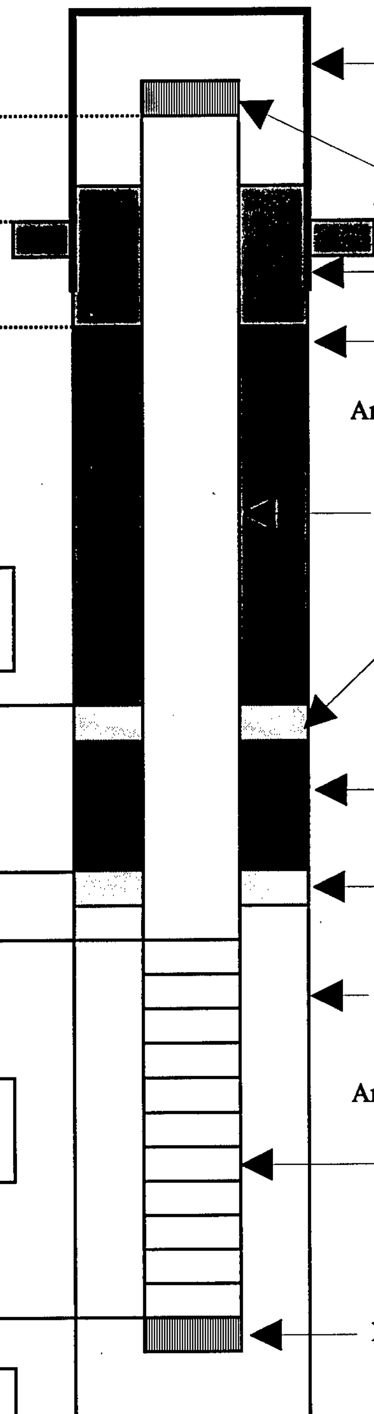
Depth to TOS bgs 11.3

Filter Pack Thickness 7.5

Screen Length 5.0

Depth to BOS bgs 16.3

Bottom of Boring bgs 16.8



8.25"
Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Bentonite chips
Amount Used: 6 lbs.

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 2.0

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 57 lbs.

Well Screen
Material: Sched 40 PVC
Diameter: 2 ''
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

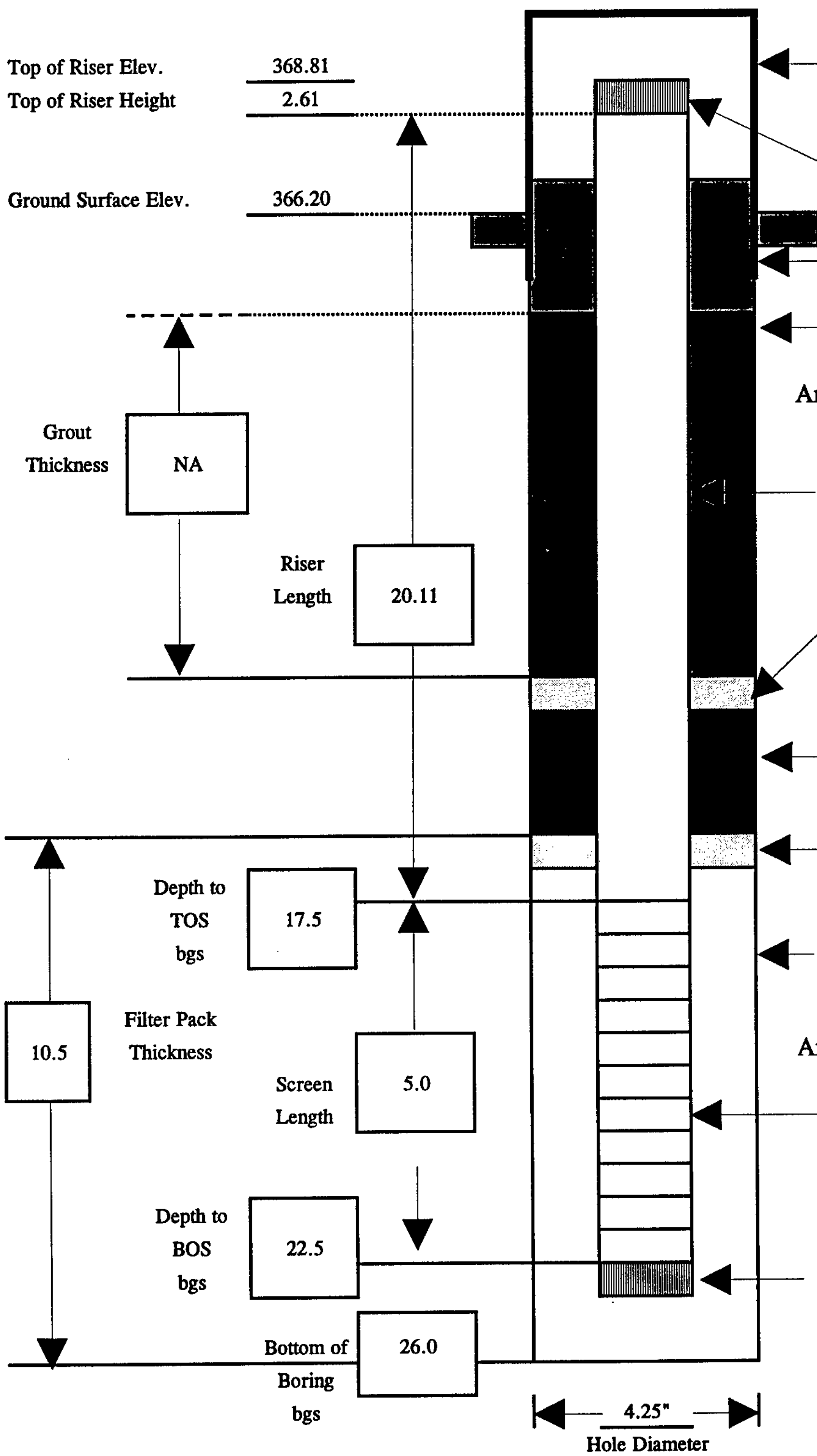
ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.:		Well/Boring No.:
	ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		MW-09
	Logged By:	Date/Time Started	Date/Time Finished
	K.Kutaswki	11/7/95 1400	11/8/95 0700

Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME Track Rig	HSA/ NX Core Barrel

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545707.4900
Easting (X): 569215.7700



Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Not Used
Amount Used:

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Not used
Thickness:

Bentonite Seal
Type: Bentonite chips
Thickness: 15.5

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 40 lbs.

Well Screen
Material: Sched 40 PVC
Diameter: 2 ''
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

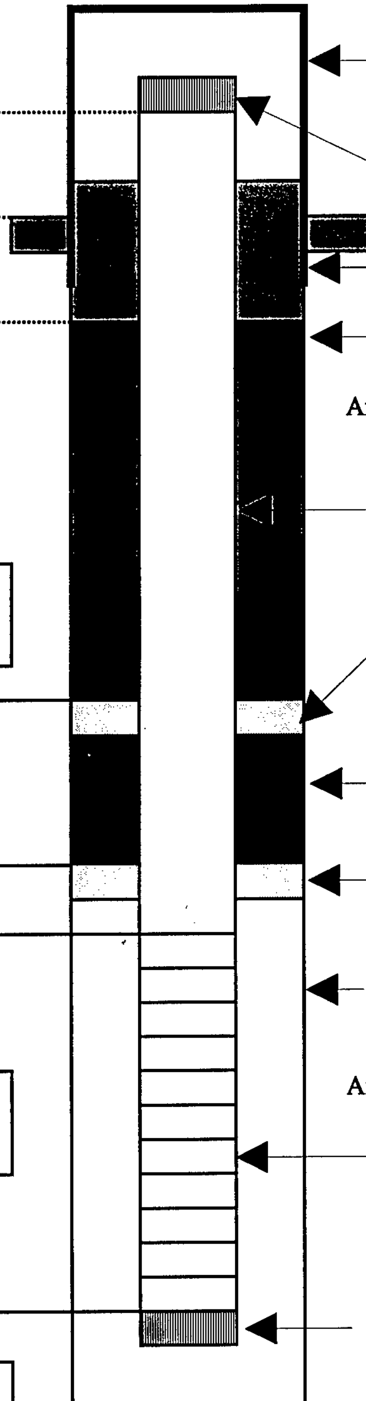
TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-10
	Logged By: K.Kutaswki	Date/Time Started: 11/7/95 0900	Date/Time Finished: 11/8/95 0830
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME Track Rig	Drilling Method: HSA	

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 545709.2500
Easting (X): 569212.2200



Top of Riser Elev. 368.39
Top of Riser Height 2.19
Ground Surface Elev. 366.20

Grout Thickness: NA
Riser Length: 6.19
Depth to TOS bgs: 4.0
Filter Pack Thickness: 6.5
Screen Length: 5.0
Depth to BOS bgs: 9.0
Bottom of Boring bgs: 9.5
8.25" Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Not Used
Amount Used:

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Not used
Thickness:

Bentonite Seal
Type: Bentonite chips
Thickness: 1.0

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 0.5

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 50 lbs.

Well Screen
Material: Sched 40 PVC
Diameter: 2"
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

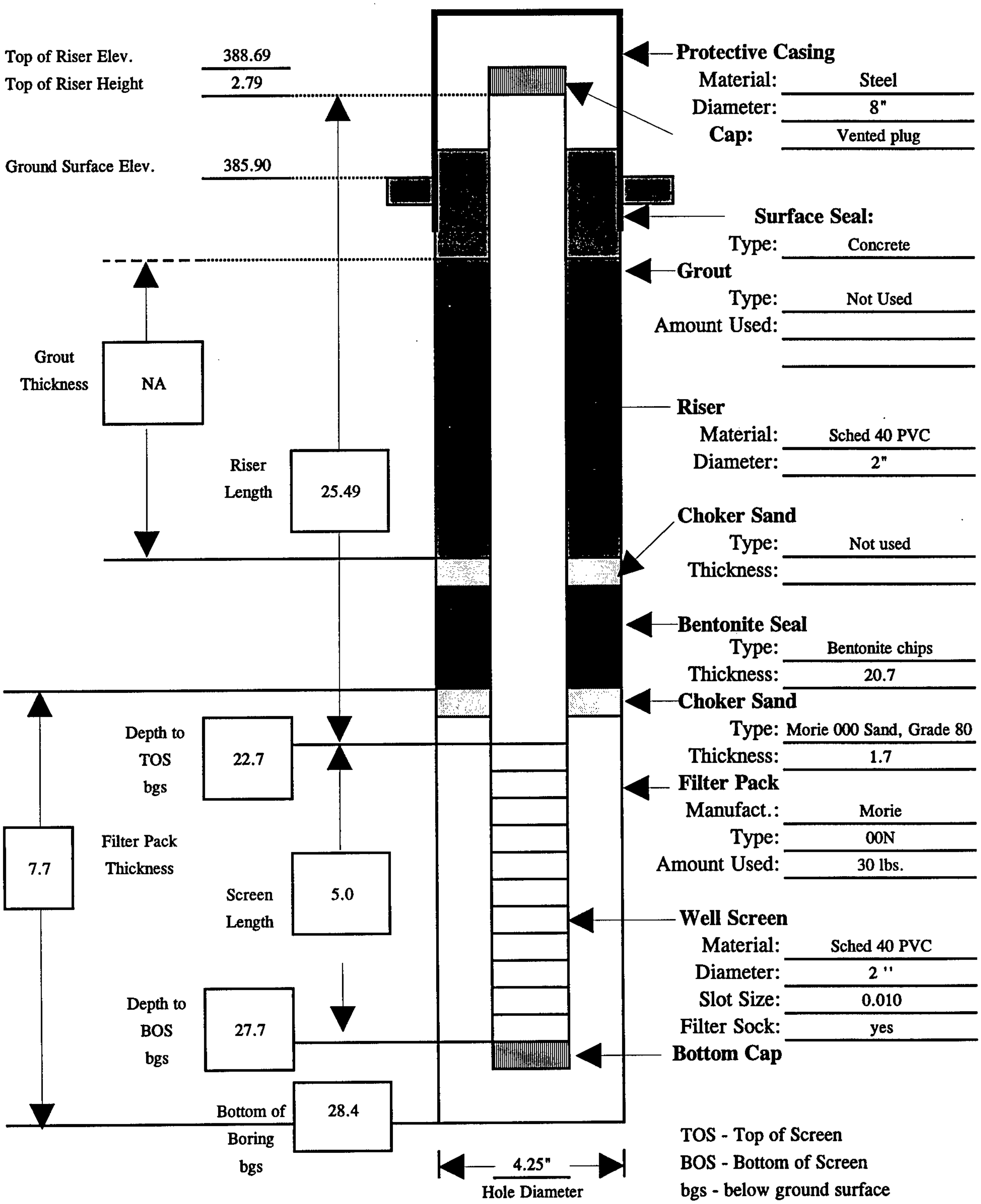
ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-11
	Logged By: J.Donovan	Date/Time Started 11/9/95 0900	Date/Time Finished 11/9/95 1630

Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME Track Rig	HSA/ NX Core Barrel

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 546123.2900
Easting (X): 569216.3300



TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

WCL11.XLS 10/15/96

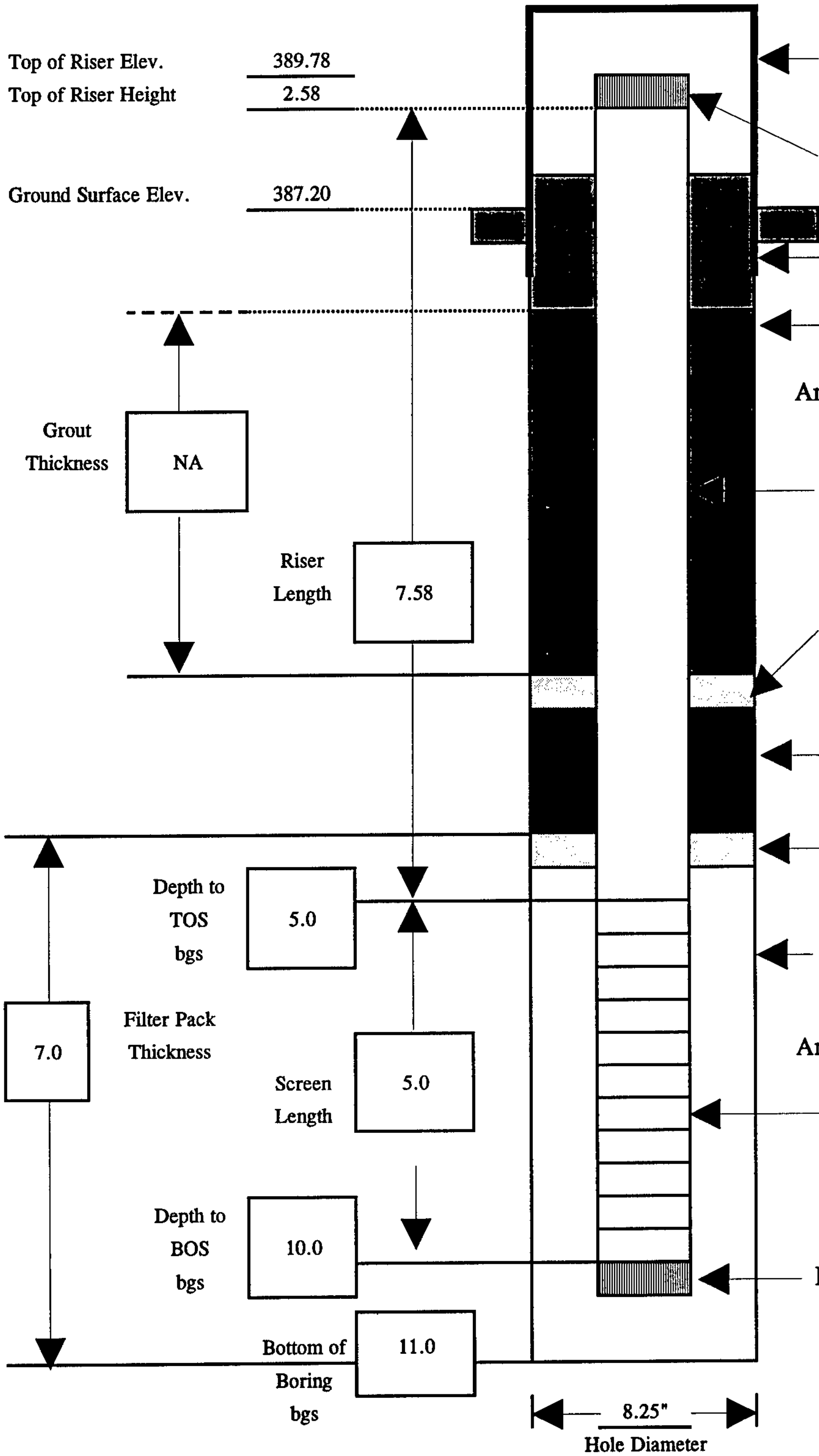
ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-12
	Logged By: J.Donovan	Date/Time Started 11/9/95 1230	Date/Time Finished 11/9/95 1630

Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME Track Rig	HSA

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 546134.0500
Easting (X): 569201.4500



Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Not Used
Amount Used:

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Not used
Thickness:

Bentonite Seal
Type: Bentonite chips
Thickness: 2.5

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 0.5

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 53 lbs.

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

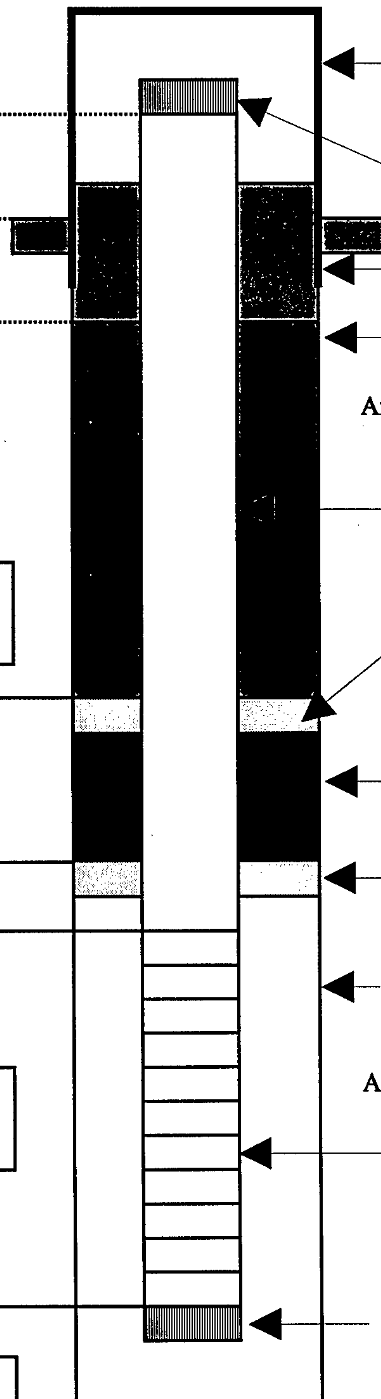
ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-14
	Logged By: J.Donovan/C. Devonshire	Date/Time Started 7/22/96 1610	Date/Time Finished 7/26/96 1200
Drilling Contractor: East Coast Thomas	Drilling Rig Make/Model: CME 75	Drilling Method: HSA/ NX Core Barrel	

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 568667.1700
Easting (X): 545175.1100

Top of Riser Elev. 411.57
Top of Riser Height 2.77
Ground Surface Elev. 408.80



Grout Thickness 34.9
Riser Length 53.77
Depth to TOS bgs 51.0
Filter Pack Thickness 9.5
Screen Length 5.0
Depth to BOS bgs 56.0
Bottom of Boring bgs 57.0

4.25" Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: Cement & Bentonite
Amount Used: 100 lbs Cement
10 lbs. Bentonite

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Bentonite Seal
Type: Bentonite chips
Thickness: 7.7

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.3

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 28.5

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

ANEPTEK CORPORATION Well Completion Log	Client/Project/Contract No.: ANG /Stewart ANGB Site 1/DAHA-90-93-D-003/DO-08		Well/Boring No.: MW-15
	Logged By: J.Donovan/C. Devonshire	Date/Time Started 7/29/96 1200	Date/Time Finished 7/30/96 1015

Drilling Contractor:	Drilling Rig Make/Model:	Drilling Method:
East Coast Thomas	CME 75	HSA

All measurements in feet unless otherwise noted.

Survey Coordinates

Northing (Y): 568662.6100
Easting (X): 545176.7300

Top of Riser Elev. 412.2
Top of Riser Height 3.40

Ground Surface Elev. 408.80

Grout Thickness NA

Riser Length 9.90

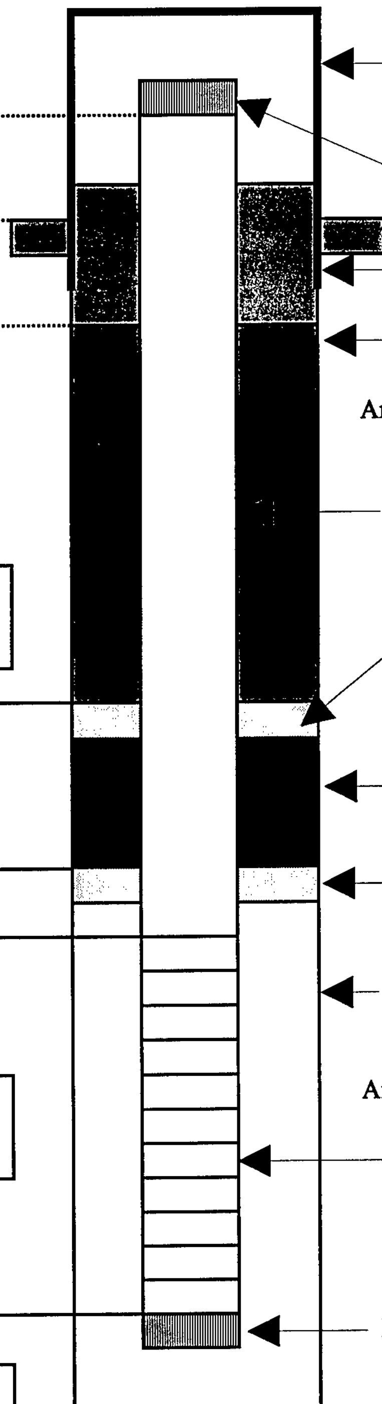
Depth to TOS bgs 6.5

Filter Pack Thickness 7.8

Screen Length 5.0

Depth to BOS bgs 11.5

Bottom of Boring bgs 12.8



8.25" Hole Diameter

Protective Casing
Material: Steel
Diameter: 8"
Cap: Vented plug

Surface Seal:
Type: Concrete

Grout
Type: NA
Amount Used: NA
NA

Riser
Material: Sched 40 PVC
Diameter: 2"

Choker Sand
Type: NA
Thickness: NA

Bentonite Seal
Type: Bentonite chips
Thickness: 1.5

Choker Sand
Type: Morie 000 Sand, Grade 80
Thickness: 1.0

Filter Pack
Manufact.: Morie
Type: 00N
Amount Used: 28.5

Well Screen
Material: Sched 40 PVC
Diameter: 2 "
Slot Size: 0.010
Filter Sock: yes

Bottom Cap

TOS - Top of Screen
BOS - Bottom of Screen
bgs - below ground surface

APPENDIX F

WATER LEVEL DATA AND CALCULATIONS

APPENDIX F, TABLE F-1
GROUNDWATER ELEVATIONS - DECEMBER 8, 1995
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Reference Point	Reference Point Elevation (ft msl)	Depth to Groundwater[1] (ft)	Groundwater Elevation (ft msl)
MW-01	Top of Riser	438.49	31.68	406.81
MW-04	Top of Riser	436.29	30.40	405.89
MW-05	Top of Riser	352.28	3.11	349.17
MW-06	Top of Riser	352.53	4.18	348.35
MW-07	Top of Riser	362.77	7.77	355.00
MW-08	Top of Riser	362.14	8.60	353.54
MW-09	Top of Riser	368.81	11.17	357.64
MW-10	Top of Riser	368.39	4.95	363.44
MW-11	Top of Riser	388.69	16.74	371.95
MW-12	Top of Riser	389.78	6.28	383.50
MW-13	Top of Riser	435.32	12.20	423.12
SW-2	Top Casing	435.58	24.65	410.93
SW-3	Top Casing	434.19	23.43	410.76
JMW-107	Top of Riser	367.04	NM	NM
JMW-108	Top Casing	370.70	2.97	367.73
JMW-109	Top of Riser	374.15	3.70	370.45
JTB-100 (a)	Top of Riser	436.00	11.61	424.39
JTB-100 (b)	Top of Riser	436.24	28.51	407.73
JTB-103(a)	Top Casing	435.53	20.78	414.75
JTB-103 (b)	Top Casing	435.53	24.14	411.39
JTB-105 (a)	Top Casing	394.43	NM	NM
JTB-105 (b)	Top Casing	394.43	NM	NM
JTB-105 (c)	Top Casing	394.43	NM	NM
JTB-106 (a)	Top Casing	389.85	15.47	374.38
JTB-106 (b)	Top Casing	389.85	15.04	374.81
JTB-107 (a)	Top Casing	367.92	6.78	361.14
JTB-107 (b)	Top Casing	367.92	6.75	361.17
JTB-108 (a)	Top Casing	370.31	NM	NM
JTB-108 (b)	Top Casing	370.31	NM	NM
JTB-109 (a)	Top Casing	373.96	4.20	369.76
JTB-109 (b)	Top Casing	373.96	3.69	370.27
SG-01	3 ft Mark	392.22	1.09	390.31
SG-02	3 ft Mark	337.11	0.84	334.95
SG-03	6 ft Mark	336.14	3.68	333.82
SG-04	6 ft Mark	336.22	3.93	334.15
SG-06	3 ft Mark	332.36	1.89	331.25

Notes: [1] Readings for stream gages are direct readings and are evaluated with respect to the elevations of the appropriate foot marks on the gage.
ft - feet
NM - Not Measured

APPENDIX F, TABLE F-2
GROUNDWATER ELEVATIONS - MARCH 19, 1996
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Reference Point	Reference Point Elevation (ft msl)	Depth to Groundwater[1] (ft)	Groundwater Elevation (ft msl)
MW-01	Top of Riser	438.49	31.10	407.39
MW-04	Top of Riser	436.29	29.96	406.33
MW-05	Top of Riser	352.28	1.89	350.39
MW-06	Top of Riser	352.53	3.37	349.16
MW-07	Top of Riser	362.77	5.80	356.97
MW-08	Top of Riser	362.14	6.44	355.70
MW-09	Top of Riser	368.81	7.72	361.09
MW-10	Top of Riser	368.39	2.93	365.46
MW-11	Top of Riser	388.69	14.18	374.51
MW-12	Top of Riser	389.78	3.52	386.26
MW-13	Top of Riser	435.32	11.38	423.94
SW-2	Top Casing	435.58	23.59	411.99
SW-3	Top Casing	434.19	22.55	411.64
JMW-107	Top of Riser	367.04	NM	NM
JMW-108	Top Casing	370.70	2.08	368.62
JMW-109	Top of Riser	374.15	2.78	371.37
JTB-100 (a)	Top of Riser	436.00	NM	NM
JTB-100 (b)	Top of Riser	436.24	NM	NM
JTB-103(a)	Top Casing	435.53	27.30	408.23
JTB-103 (b)	Top Casing	435.53	27.23	408.30
JTB-105 (a)	Top Casing	394.43	NM	NM
JTB-105 (b)	Top Casing	394.43	NM	NM
JTB-105 (c)	Top Casing	394.43	NM	NM
JTB-106 (a)	Top Casing	389.85	11.90	377.95
JTB-106 (b)	Top Casing	389.85	11.75	378.10
JTB-107 (a)	Top Casing	367.92	5.48	362.44
JTB-107 (b)	Top Casing	367.92	4.93	362.99
JTB-108 (a)	Top Casing	370.31	NM	NM
JTB-108 (b)	Top Casing	370.31	NM	NM
JTB-109 (a)	Top Casing	373.96	3.29	370.67
JTB-109 (b)	Top Casing	373.96	3.15	370.81
SG-01	3 ft Mark	392.22	NM	NM
SG-02	3 ft Mark	337.11	NM	NM
SG-03	6 ft Mark	336.14	NM	NM
SG-04	6 ft Mark	336.22	NM	NM
SG-06	3 ft Mark	332.36	NM	NM

Notes: [1] Readings for stream gages are direct readings and are evaluated with respect to the elevations of the appropriate foot marks on the gage.

ft - feet

NM - Not Available

APPENDIX F, TABLE F-3
GROUNDWATER ELEVATIONS - APRIL 9, 1996
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Reference Point	Reference Point Elevation (ft msl)	Depth to Groundwater[1] (ft)	Groundwater Elevation (ft msl)
MW-01	Top of Riser	438.49	31.12	407.37
MW-04	Top of Riser	436.29	29.99	406.30
MW-05	Top of Riser	352.28	2.04	350.24
MW-06	Top of Riser	352.53	3.74	348.79
MW-07	Top of Riser	362.77	6.07	356.70
MW-08	Top of Riser	362.14	6.86	355.28
MW-09	Top of Riser	368.81	8.29	360.52
MW-10	Top of Riser	368.39	3.80	364.59
MW-11	Top of Riser	388.69	14.60	374.09
MW-12	Top of Riser	389.78	3.15	386.63
MW-13	Top of Riser	435.32	11.65	423.67
SW-2	Top Casing	435.58	24.16	411.42
SW-3	Top Casing	434.19	22.71	411.48
JMW-107	Top of Riser	367.04	4.27	362.77
JMW-108	Top Casing	370.70	2.24	368.46
JMW-109	Top of Riser	374.15	2.82	371.33
JTB-100 (a)	Top of Riser	436.00	9.33	426.67
JTB-100 (b)	Top of Riser	436.24	28.71	407.53
JTB-103(a)	Top Casing	435.53	28.41	407.12
JTB-103 (b)	Top Casing	435.53	28.06	407.47
JTB-105 (a)	Top Casing	394.43	13.68	380.75
JTB-105 (b)	Top Casing	394.43	13.46	380.97
JTB-105 (c)	Top Casing	394.43	9.67	384.76
JTB-106 (a)	Top Casing	389.85	12.84	377.01
JTB-106 (b)	Top Casing	389.85	12.49	377.36
JTB-107 (a)	Top Casing	367.92	5.98	361.94
JTB-107 (b)	Top Casing	367.92	5.96	361.96
JTB-108 (a)	Top Casing	370.31	4.44	365.87
JTB-108 (b)	Top Casing	370.31	4.62	365.69
JTB-109 (a)	Top Casing	373.96	3.15	370.81
JTB-109 (b)	Top Casing	373.96	2.87	371.09
SG-01	3 ft Mark	392.22	1.61	390.83
SG-02	3 ft Mark	337.11	0.94	335.05
SG-03	6 ft Mark	336.14	3.70	333.84
SG-04	6 ft Mark	336.22	4.07	334.29
SG-06	3 ft Mark	332.36	3.21	332.57

Notes: [1] Readings for stream gages are direct readings and are evaluated with respect to the elevations of the appropriate foot marks on the gage.
ft - feet
NM - Not Measured

APPENDIX F, TABLE F-4
GROUNDWATER ELEVATIONS - AUGUST 15, 1996
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Reference Point	Reference Point Elevation (ft msl)	Depth to Groundwater[1] (ft)	Groundwater Elevation (ft msl)
MW-01	Top of Riser	438.49	30.73	407.76
MW-04	Top of Riser	436.29	29.93	406.36
MW-05	Top of Riser	352.28	4.20	348.08
MW-06	Top of Riser	352.53	6.28	346.25
MW-07	Top of Riser	362.77	8.57	354.20
MW-08	Top of Riser	362.14	9.90	352.24
MW-09	Top of Riser	368.81	10.80	358.01
MW-10	Top of Riser	368.39	6.20	362.19
MW-11	Top of Riser	388.69	19.19	369.50
MW-12	Top of Riser	389.78	7.76	382.02
MW-13	Top of Riser	435.32	12.75	422.57
MW-14	Top of Riser	411.57	29.03	382.54
MW-15	Top of Riser	412.20	14.14	398.06
SW-2	Top Casing	435.58	24.45	411.13
SW-3	Top Casing	434.19	23.45	410.74
JMW-107	Top of Riser	367.04	5.64	361.40
JMW-108	Top Casing	370.70	3.38	367.32
JMW-109	Top of Riser	374.15	5.90	368.25
JTB-100 (a)	Top of Riser	436.00	NM	NM
JTB-100 (b)	Top of Riser	436.24	NM	NM
JTB-103(a)	Top Casing	435.53	28.38	407.15
JTB-103 (b)	Top Casing	435.53	28.48	407.05
JTB-105 (a)	Top Casing	394.43	15.54	378.89
JTB-105 (b)	Top Casing	394.43	15.32	379.11
JTB-105 (c)	Top Casing	394.43	11.39	383.04
JTB-106 (a)	Top Casing	389.85	16.91	372.94
JTB-106 (b)	Top Casing	389.85	16.65	373.20
JTB-107 (a)	Top Casing	367.92	7.40	360.52
JTB-107 (b)	Top Casing	367.92	7.39	360.53
JTB-108 (a)	Top Casing	370.31	5.39	364.92
JTB-108 (b)	Top Casing	370.31	5.50	364.81
JTB-109 (a)	Top Casing	373.96	5.91	368.05
JTB-109 (b)	Top Casing	373.96	5.61	368.35
SG-01	3 ft Mark	392.22	0.94	390.16
SG-02	3 ft Mark	337.11	0.89	335.00
SG-03	6 ft Mark	336.14	3.74	333.88
SG-04	6 ft Mark	336.22	NM	NM
SG-06	3 ft Mark	332.36	2.55	331.91

Notes: [1] Readings for stream gages are direct readings and are evaluated with respect to the elevations of the appropriate foot marks on the gage.

ft - feet

NM - Not Measured

APPENDIX F, TABLE F-5
CALCULATED DECEMBER 8, 1995 WATER TABLE ELEVATIONS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well Pair	Completion Interval	Elevation Head (Z) (ft msl)	Total Head (ft msl)	Pressure Head (P) (ft)	Calculated Water Table Elevation (ft msl)
MW-05	BR	317.40	349.17	31.77	348.08
MW-06	OB	340.40	348.35	7.95	
MW-07	BR	332.85	355.00	22.15	352.72
MW-08	OB	345.60	353.54	7.94	
MW-09	BR	346.20	357.64	11.44	366.26
MW-10	OB	359.70	363.44	3.74	
MW-11	BR	360.70	371.95	11.25	389.39
MW-12	OB	379.70	383.50	3.80	
MW-04	BR	380.70	405.89	25.19	411.79
JTB-100(b)	OB	390.40	407.73	17.33	
JTB-103(a)	BR	382.30	414.75	32.45	406.21
JTB-103(b)	OB	391.70	411.39	19.69	
JTB-106(a)	BR	360.00	374.38	14.38	375.10
JTB-106(b)	OB	369.00	374.81	5.81	
JTB-107(a)	BR	347.80	361.14	13.34	361.18
JTB-107(b)	OB	358.20	361.17	2.97	
JTB-109(a)	BR	353.30	369.76	16.46	370.68
JTB-109(b)	OB	362.90	370.27	7.37	

Notes:
Calculated water table elevation is based on the following equation:

$$H_{wt} = Z_s - [((Z_s - Z_d)/(P_s - P_d))] \times P_s$$

Where: H_{wt} - Calculated Water Table Elevation
$Z_{s,d}$ - Elevation Head in the shallow or deep well
$P_{s,d}$ - Elevation Head in the shallow or deep well

Key:
BR - Bedrock ft - feet
OB - Overburden msl - mean sea level

APPENDIX F, TABLE F-6
CALCULATED APRIL 9, 1996 WATER TABLE ELEVATIONS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well Pair	Completion Interval	Elevation Head (Z) (ft msl)	Total Head (ft msl)	Pressure Head (P) (ft)	Calculated Water Table Elevation (ft msl)
MW-05	BR	317.40	350.24	32.84	348.29
MW-06	OB	340.40	348.79	8.39	
MW-07	BR	332.85	356.70	23.85	354.31
MW-08	OB	345.60	355.28	9.68	
MW-09	BR	346.20	360.52	14.32	366.70
MW-10	OB	359.70	364.59	4.89	
MW-11	BR	360.70	374.09	13.39	400.08
MW-12*	OB	379.70	386.63	6.93	
MW-04	BR	380.70	406.30	25.60	410.02
JTB-100(b)	OB	390.40	407.53	17.13	
JTB-103(a)	BR	382.30	407.12	24.82	408.08
JTB-103(b)	OB	391.70	407.47	15.77	
JTB-105(b)	OB	367.70	380.97	13.27	390.62
JTB-105(c)	OB	376.70	384.76	8.06	
JTB-106(a)	BR	360.00	377.01	17.01	377.70
JTB-106(b)	OB	369.00	377.36	8.36	
JTB-107(a)	BR	347.80	361.94	14.14	361.97
JTB-107(b)	OB	358.20	361.96	3.76	
JTB-108(a)	BR	346.80	365.87	19.07	365.50
JTB-108(b)	OB	355.80	365.69	9.89	
JTB-109(a)	BR	353.30	370.81	17.51	371.34
JTB-109(b)	OB	362.90	371.09	8.19	

Notes:

Calculated water table elevation is based on the following equation:

$H_{wt} = Z_s - [((Z_s - Z_d)/(P_s - P_d))] \times P_s$

Where: H_{wt} - Calculated Water Table Elevation
$Z_{s,d}$ - Elevation Head in the shallow or deep well
$P_{s,d}$ - Elevation Head in the shallow or deep well

Key:

BR - Bedrock ft - feet
OB - Overburden msl - mean sea level

APPENDIX F, TABLE F-7
CALCULATED AUGUST 15, 1996 WATER TABLE ELEVATIONS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well Pair	Completion Interval	Elevation Head (Z) (ft msl)	Total Head (ft msl)	Pressure Head (P) (ft)	Calculated Water Table Elevation (ft msl)
MW-05	BR	317.40	348.08	30.68	345.82
MW-06	OB	340.40	346.25	5.85	
MW-07	BR	332.85	354.20	21.35	351.36
MW-08	OB	345.60	352.24	6.64	
MW-09	BR	346.20	358.01	11.81	363.31
MW-10	OB	359.70	362.19	2.49	
MW-11	BR	360.70	369.50	8.80	386.50
MW-12*	OB	379.70	382.02	2.32	
MW-04	BR	380.70	406.36	25.66	NM
JTB-100(b)	OB	390.40	NM	-	
JTB-103(a)	BR	382.30	407.15	24.85	406.89
JTB-103(b)	OB	391.70	407.05	15.35	
JTB-105(b)	OB	367.70	379.11	11.41	387.95
JTB-105(c)	OB	376.70	383.04	6.34	
JTB-106(a)	BR	360.00	372.94	12.94	373.32
JTB-106(b)	OB	369.00	373.20	4.20	
JTB-107(a)	BR	347.80	360.52	12.72	360.53
JTB-107(b)	OB	358.20	360.53	2.33	
JTB-108(a)	BR	346.80	364.92	18.12	364.70
JTB-108(b)	OB	355.80	364.81	9.01	
JTB-109(a)	BR	353.30	368.05	14.75	368.53
JTB-109(b)	OB	362.90	368.35	5.45	

Notes:
Calculated water table elevation is based on the following equation:

$H_{wt} = Z_s - [((Z_s - Z_d)/(P_s - P_d))] \times P_s$

Where: H_{wt} - Calculated Water Table Elevation
$Z_{s,d}$ - Elevation Head in the shallow or deep well
$P_{s,d}$ - Elevation Head in the shallow or deep well

Key:
BR - Bedrock ft - feet NM - Not Measured
OB - Overburden msl - mean sea level

APPENDIX F, TABLE F-8
CALCULATIONS OF VERTICAL GRADIENTS AT WELL PAIRS
BASED ON WATER ELEVATIONS DATA COLLECTED DECEMBER 8, 1995
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Elevation Top of Screen (ft msl)	Elevation Center of Screen (ft msl)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)
MW-05	319.90	317.40	349.17	0.0357
MW-06	342.90	340.40	348.35	
MW-07	335.35	332.85	355	0.1145
MW-08	348.10	345.60	353.54	
MW-09	348.70	346.20	357.64	-0.4296
MW-10	362.20	359.70	363.44	
MW-11	363.20	360.70	371.95	-0.6079
MW-12	382.20	379.70	383.5	
SW-2	393.80	388.80	410.93	-0.3552
MW-13	426.10	421.10	423.12	
MW-04	383.20	380.70	405.89	-0.1897 [2]
JTB-100 (b)	391.40	390.40	407.73	
JTB-103(a)	383.30	382.30	414.75	0.3574
JTB-103 (b)	392.70	391.70	411.39	
JTB-105 (a)	357.20	356.20	NM	NM
JTB-105 (b)	368.70	367.70	NM	NM
JTB-105 (c)	377.70	376.70	NM	
JTB-106 (a)	361.00	360.00	374.38	-0.0478
JTB-106 (b)	370.00	369.00	374.81	
JTB-107 (a)	348.80	347.80	361.14	-0.0029
JTB-107 (b)	359.20	358.20	361.17	NM
JMW-107	359.72	357.22	NM	
JTB-108 (a)	347.80	346.80	NM	NM
JTB-108 (b)	356.80	355.80	NM	NM
JMW-108	362.13	359.63	NM	
JTB-109 (a)	354.30	353.30	369.76	-0.0531
JTB-109 (b)	363.90	362.90	370.27	NM
JMW-109	366.50	364.05	NM	

Notes: [1] By convention a positive gradient indicates a vertically upward gradient, and a negative gradient indicates vertically downward gradient.

[2] - Water level in JTB-100a does not appear to be representative of formation conditions, therefore the gradient calculation was based on comparison with nearby MW-04.

NM - Not Measured

ft - feet

msl - mean sea level

APPENDIX F, TABLE F-9
CALCULATIONS OF VERTICAL GRADIENTS AT WELL PAIRS
BASED ON WATER ELEVATIONS DATA COLLECTED MARCH 19, 1996
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Elevation Top of Screen (ft msl)	Elevation Center of Screen (ft msl)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)
MW-05	319.90	317.40	350.39	0.0535
MW-06	342.90	340.40	349.16	
MW-07	335.35	332.85	356.97	0.0996
MW-08	348.10	345.60	355.70	
MW-09	348.70	346.20	361.09	-0.3237
MW-10	362.20	359.70	365.46	
MW-11	363.20	360.70	374.51	-0.6184
MW-12	382.20	379.70	386.26	
SW-2	393.80	388.80	411.99	-0.3401
MW-13	426.10	421.10	423.94	
MW-04	383.20	380.70	406.33	NM
JTB-100 (b)	391.40	390.40	NM	
JTB-103(a)	383.30	382.30	408.23	-0.0074
JTB-103 (b)	392.70	391.70	408.30	
JTB-105 (a)	357.20	356.20	NM	NM
JTB-105 (b)	368.70	367.70	NM	NM
JTB-105 (c)	377.70	376.70	NM	
JTB-106 (a)	361.00	360.00	377.95	-0.0167
JTB-106 (b)	370.00	369.00	378.10	
JTB-107 (a)	348.80	347.80	362.44	-0.0529
JTB-107 (b)	359.20	358.20	362.99	NM
JMW-107	359.72	357.22	NM	
JTB-108 (a)	347.80	346.80	NM	NM
JTB-108 (b)	356.80	355.80	NM	NM
JMW-108	362.13	359.63	NM	
JTB-109 (a)	354.30	353.30	370.67	-0.0146
JTB-109 (b)	363.90	362.90	370.81	NM
JMW-109	366.55	364.05	NM	

Notes: [1] By convention a positive gradient indicates a vertically upward gradient, and a negative gradient indicates vertically downward gradient.
ft - feet
msl - mean sea level
NM - Water levels not measured.

APPENDIX F, TABLE F-10
CALCULATIONS OF VERTICAL GRADIENT AT WELL PAIRS
BASED ON WATER ELEVATION DATA COLLECTED APRIL 9, 1996
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Elevation Top of Screen (ft msl)	Elevation Center of Screen (ft msl)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)
MW-05	319.90	317.40	350.24	0.0630
MW-06	342.90	340.40	348.79	
MW-07	335.35	332.85	356.70	0.1114
MW-08	348.10	345.60	355.28	
MW-09	348.70	346.20	360.52	-0.3015
MW-10	362.20	359.70	364.59	
MW-11	363.20	360.70	374.09	-0.6600
MW-12	382.20	379.70	386.63	
SW-2	393.80	388.80	411.42	-0.3513
MW-13	426.10	421.10	423.67	
MW-04	383.20	380.70	406.30	-0.1268 [2]
JTB-100 (b)	391.40	390.40	407.53	
JTB-103(a)	383.30	382.30	407.12	-0.0372
JTB-103 (b)	392.70	391.70	407.47	
JTB-105 (a)	357.20	356.20	380.75	-0.0191
JTB-105 (b)	368.70	367.70	380.97	-0.4211
JTB-105 (c)	377.70	376.70	384.76	
JTB-106 (a)	361.00	360.00	377.01	-0.0389
JTB-106 (b)	370.00	369.00	377.36	
JTB-107 (a)	348.80	347.80	361.94	-0.0019
JTB-107 (b)	359.20	358.20	361.96	-0.8265
JMW-107	359.72	357.22	362.77	
JTB-108 (a)	347.80	346.80	365.87	0.0200
JTB-108 (b)	356.80	355.80	365.69	-0.7232
JMW-108	362.13	359.63	368.46	
JTB-109 (a)	354.30	353.30	370.81	-0.0292
JTB-109 (b)	363.90	362.90	371.09	-0.2087
JMW-109	366.55	364.05	371.33	

Notes: [1] By convention a positive gradient indicates a vertically upward gradient, and a negative gradient indicates vertically downward gradient.

[2] - Water level in JTB-100a does not appear to be representative of formation conditions, therefore the gradient calculation was based on nearby MW-04.

ft - feet

msl - mean sea level

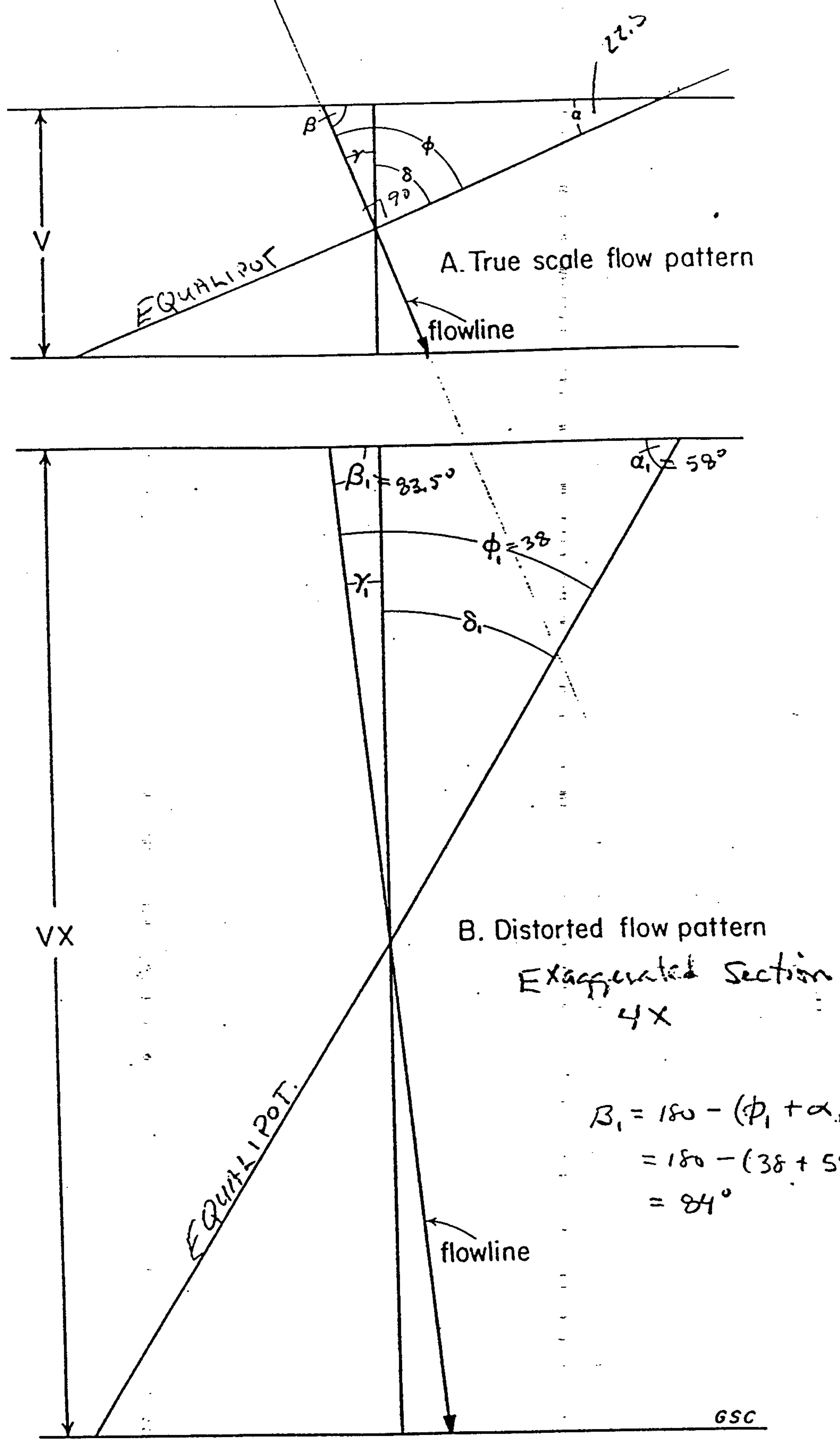
APPENDIX F, TABLE F-11
CALCULATIONS OF VERTICAL GRADIENT AT WELL PAIRS
BASED ON WATER ELEVATION DATA COLLECTED AUGUST 15, 1996
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Well/Piezometer Designation	Elevation Top of Screen (ft msl)	Elevation Center of Screen (ft msl)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)
MW-05	319.90	317.40	348.08	0.0796
MW-06	342.90	340.40	346.25	
MW-07	335.35	332.85	354.20	0.1537
MW-08	348.10	345.60	352.24	
MW-09	348.70	346.20	358.01	-0.3096
MW-10	362.20	359.70	362.19	
MW-11	363.20	360.70	369.50	-0.6589
MW-12	382.20	379.70	382.02	
SW-2	393.80	388.80	411.13	-0.3388
MW-13	426.10	421.10	422.57	
MW-14	358.30	355.80	382.54	-0.3673
MW-15	402.30	399.80	398.06	
MW-04	383.20	380.70	406.36	NM
JTB-100 (b)	391.40	390.40	NM	
JTB-103(a)	383.30	382.30	407.15	0.0106
JTB-103 (b)	392.70	391.70	407.05	
JTB-105 (a)	357.20	356.20	378.89	-0.0191
JTB-105 (b)	368.70	367.70	379.11	-0.4367
JTB-105 (c)	377.70	376.70	383.04	
JTB-106 (a)	361.00	360.00	372.94	-0.0289
JTB-106 (b)	370.00	369.00	373.20	
JTB-107 (a)	348.80	347.80	360.52	-0.0010
JTB-107 (b)	359.20	358.20	360.53	-0.8878
JMW-107	359.72	357.22	361.40	
JTB-108 (a)	347.80	346.80	364.92	0.0122
JTB-108 (b)	356.80	355.80	364.81	-0.6554
JMW-108	362.13	359.63	367.32	
JTB-109 (a)	354.30	353.30	368.05	-0.0313
JTB-109 (b)	363.90	362.90	368.35	0.0870
JMW-109	366.55	364.05	368.25	

Notes: [1] By convention a positive gradient indicates a vertically upward gradient, and a negative gradient indicates vertically downward gradient.
ft - feet
msl - mean sea level
NM - Not Measured

β = 180 −

van Everdingen, R.O. 1963. *Groundwater Flow-Diagrams in Sections with Exaggerated Vertical Scale*. Geological Survey of Canada. Department of Mines and Technical Surveys Paper 63-27.



$$\beta_1 = 180 - (\phi_1 + \alpha_1)$$
$$= 180 - (38 + 58)$$
$$= 84°$$

Figure 1. Relation of flowlines and equipotential lines in true-scale and distorted flow patterns

van Everdingen, R.O. 1963. *Groundwater Flow-Diagrams in Sections with Exaggerated Vertical Scale*. Geological Survey of Canada. Department of Mines and Technical Surveys Paper 63-27.

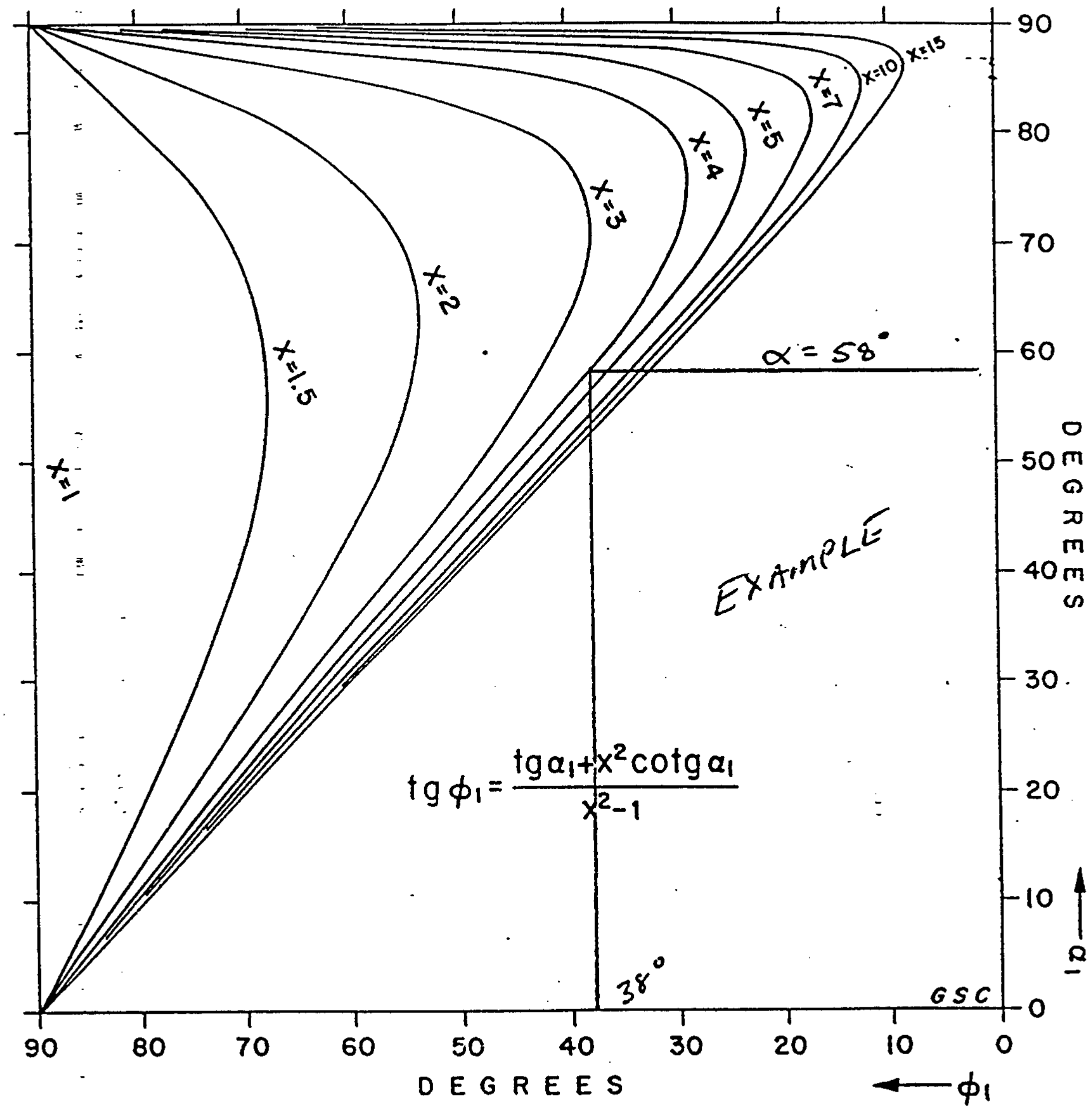


Figure 2. Nomograph for the determination of ϕ_1 from α_1 and X

APPENDIX G

AQUIFER TESTING RESULTS

APPENDIX TABLE 1

ANEPTEK OVERBURDEN WELL SLUG TEST INPUT DATA

WELL NUMBER	INPUT VARIABLE	MW-06	MW-08	MW-10	MW-12	MW-13
WELL GROUND SURFACE ELEVATION (MSL)		349.9	359.4	366.2	387.2	433.1
REFERENCE ELEVATION - TOP OF RISER (MSL)		352.53	362.14	368.39	389.78	435.32
DEPTH TO STATIC WATER LEVEL - TOR (FT)		4.04	8.32	1.44	5.85	11.88
DEPTH TO STATIC WATER LEVEL - GROUND SURFACE (FT)		1.41	5.58	-0.75	3.27	9.66
ELEVATION OF STATIC WATER LEVEL (MSL)		348.49	353.82	366.95	383.93	423.44
DEPTH TO TOP OF SCREEN FROM GROUND SURFACE (FT)		5	11.3	4	5	7
DEPTH TO BOTTOM OF SCREEN FROM GROUND SURFACE (FT)		10	16.3	9	10	17
ELEVATION OF TOP OF SCREEN (MSL)		344.9	348.1	362.2	382.2	426.1
ELEVATION OF BOTTOM OF SCREEN (MSL)		339.9	343.1	357.2	377.2	416.1
DEPTH TO BEDROCK (FT)		24.5	16	10.3	18	37.5
ELEVATION OF BEDROCK (MSL)		325.4	343.4	355.9	369.2	395.6
AQUIFER SATURATED THICKNESS (FT)	H	23.09	10.42	11.05	14.73	27.84
DEPTH TO TOP OF SCREEN RELATIVE TO TOP OF AQUIFER (FT)		3.59	5.72	4.75	1.73	-2.66
DEPTH TO BOTTOM OF SCREEN RELATIVE TO TOP OF AQUIFER (FT)		8.59	10.72	9.75	6.73	7.34
LENGTH OF WELL SCREEN (FT)	Le	5	5	5	5	10
LENGTH OF SATURATED WELL SCREEN (FT)		5	5	5	5	7.34
LENGTH OF SATURATED RISER (FT)		3.59	5.72	4.75	1.73	0
LENGTH OF SATURATED WELL SCREEN AND RISER (FT)	Lw	8.59	10.72	9.75	6.73	7.34
DIAMETER OF SCREEN (FT)	2rc	0.166	0.166	0.166	0.166	0.166
DIAMETER OF BOREHOLE (FT)	2rw	0.687	0.687	0.687	0.687	0.687
MEAN GRAIN-SIZE FILTER PACK (mm)		0.59	0.59	0.59	0.59	0.59
POROSITY OF FILTER PACK (%)		0.3	0.3	0.3	0.3	0.3

APPENDIX TABLE 2

ANEPTEK BEDROCK WELL SLUG TEST INPUT DATA

WELL NUMBER	INPUT VARIABLE	MW-01	MW-04	MW-05	MW-07	MW-09	MW-11
WELL GROUND SURFACE ELEVATION (MSL)		436.4	434.2	349.9	360.1	366.2	385.9
REFERENCE ELEVATION - TOP OF RISER (MSL)		438.49	436.29	352.28	362.77	368.81	388.69
DEPTH TO STATIC WATER LEVEL - TOR (FT)		31.87	30.37	3.02	7.56	10.91	16.29
DEPTH TO STATIC WATER LEVEL - GROUND SURFACE (FT)		29.78	28.28	0.64	4.89	8.3	13.5
ELEVATION OF STATIC WATER LEVEL (MSL)		406.62	405.92	349.26	355.21	357.9	372.4
DEPTH TO TOP OF SCREEN FROM GROUND SURFACE (FT)		37	51	30	24.75	17.5	22.7
DEPTH TO BOTTOM OF SCREEN FROM GROUND SURFACE (FT)		42	56	35	29.75	22.5	27.7
ELEVATION OF TOP OF SCREEN (MSL)		399.4	383.2	319.9	335.35	348.7	363.2
ELEVATION OF BOTTOM OF SCREEN (MSL)		394.4	378.2	314.9	330.35	343.7	358.2
DEPTH TO BEDROCK (FT)		33	45	21.5	16	10.3	18
ELEVATION OF BEDROCK (MSL)		403.4	389.2	328.4	344.1	355.9	367.9
DEPTH TO BASE OF FRACTURED ROCK (FT)		55	67	43.5	38	32.3	40
ELEVATION OF BASE OF FRACTURED ROCK (MSL)		381.4	367.2	306.4	322.1	333.9	345.9
AQUIFER SATURATED THICKNESS (FT)	H	22	22	22	22	22	22
DEPTH TO TOP OF SCREEN RELATIVE TO TOP OF AQUIFER (FT)		4	6	8.5	8.75	7.2	4.7
DEPTH TO BOTTOM OF SCREEN RELATIVE TO TOP OF AQUIFER (FT)		9	11	13.5	13.75	12.2	9.7
LENGTH OF WELL SCREEN (FT)	Le	5	5	5	5	5	5
LENGTH OF SATURATED WELL SCREEN (FT)		5	5	5	5	5	5
LENGTH OF SATURATED RISER (FT)		7.22	22.72	29.36	19.86	9.2	9.2
TOTAL LENGTH OF SATURATED WELL SCREEN AND RISER (FT)	Lw	12.22	27.72	34.36	24.86	14.2	14.2
DIAMETER OF SCREEN (FT)	2rc	0.166	0.166	0.166	0.166	0.166	0.166
DIAMETER OF BOREHOLE (FT)	2rw	0.33	0.33	0.33	0.33	0.33	0.33
MEAN GRAIN-SIZE FILTER PACK (mm)		0.59	0.59	0.59	0.59	0.59	0.59
POROSITY OF FILTER PACK (%)		0.3	0.3	0.3	0.3	0.3	0.3

APPENDIX TABLE 3

E.C. JORDAN OVERBURDEN WELL SLUG TEST INPUT DATA

WELL NUMBER	INPUT VARIABLE	JMW-107	JMW-108	JMW-109
WELL GROUND SURFACE ELEVATION (MSL)		364.1	368.1	371.8
REFERENCE ELEVATION - TOP OF RISER (MSL)		367.04	370.7	374.15
DEPTH TO STATIC WATER LEVEL - TOR (FT)		10.13	8.38	9.91
DEPTH TO STATIC WATER LEVEL - GROUND SURFACE (FT)		7.19	5.78	7.56
ELEVATION OF STATIC WATER LEVEL (MSL)		356.91	362.32	364.24
DEPTH TO TOP OF SCREEN FROM GROUND SURFACE (FT)		4.38	5.97	5.25
DEPTH TO BOTTOM OF SCREEN FROM GROUND SURFACE (FT)		9.38	10.97	10.25
ELEVATION OF TOP OF SCREEN (MSL)		359.72	362.13	366.55
ELEVATION OF BOTTOM OF SCREEN (MSL)		354.72	357.13	361.55
DEPTH TO BEDROCK (FT)		9.4	12.8	10.4
ELEVATION OF BEDROCK (MSL)		354.7	355.3	361.4
AQUIFER SATURATED THICKNESS (FT)	H	2.21	7.02	2.84
DEPTH TO TOP OF SCREEN RELATIVE TO TOP OF AQUIFER (FT)		-2.81	0.19	-2.31
DEPTH TO BOTTOM OF SCREEN RELATIVE TO TOP OF AQUIFER (FT)		2.19	5.19	2.69
LENGTH OF WELL SCREEN	Le	5	5	5
LENGTH OF SATURATED WELL SCREEN (FT)		2.19	5	2.69
LENGTH OF SATURATED RISER (FT)		0	0.19	0
LENGTH OF SATURATED WELL SCREEN AND RISER (FT)	Lw	2.19	5.19	2.69
DIAMETER OF SCREEN (FT)	2rc	0.166	0.166	0.166
DIAMETER OF BOREHOLE (FT)	2rw	0.66	0.66	0.66
MEAN GRAIN-SIZE FILTER PACK (mm)		0.59	0.59	0.59
POROSITY OF FILTER PACK (%)		0.3	0.3	0.3

STEWART ANG BASE
MW-04
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	6.49E-01	ft/day
	2.29E-04	cm/sec
Y-Intercept (Yo):	2.02E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	0.00	
Dimensionless Parameter B:	0.00	
Slope of Line [ln(Yo/Yt)/t]:	1.827E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	3.536	
Effective Radius [Re]:	5.67	ft
Volume Tested [rw<Vol<Re]:	5.04E+02	ft^3

Well/Aquifer Parameters

Depth of well:	27.72	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

Time vs Drawdown Data

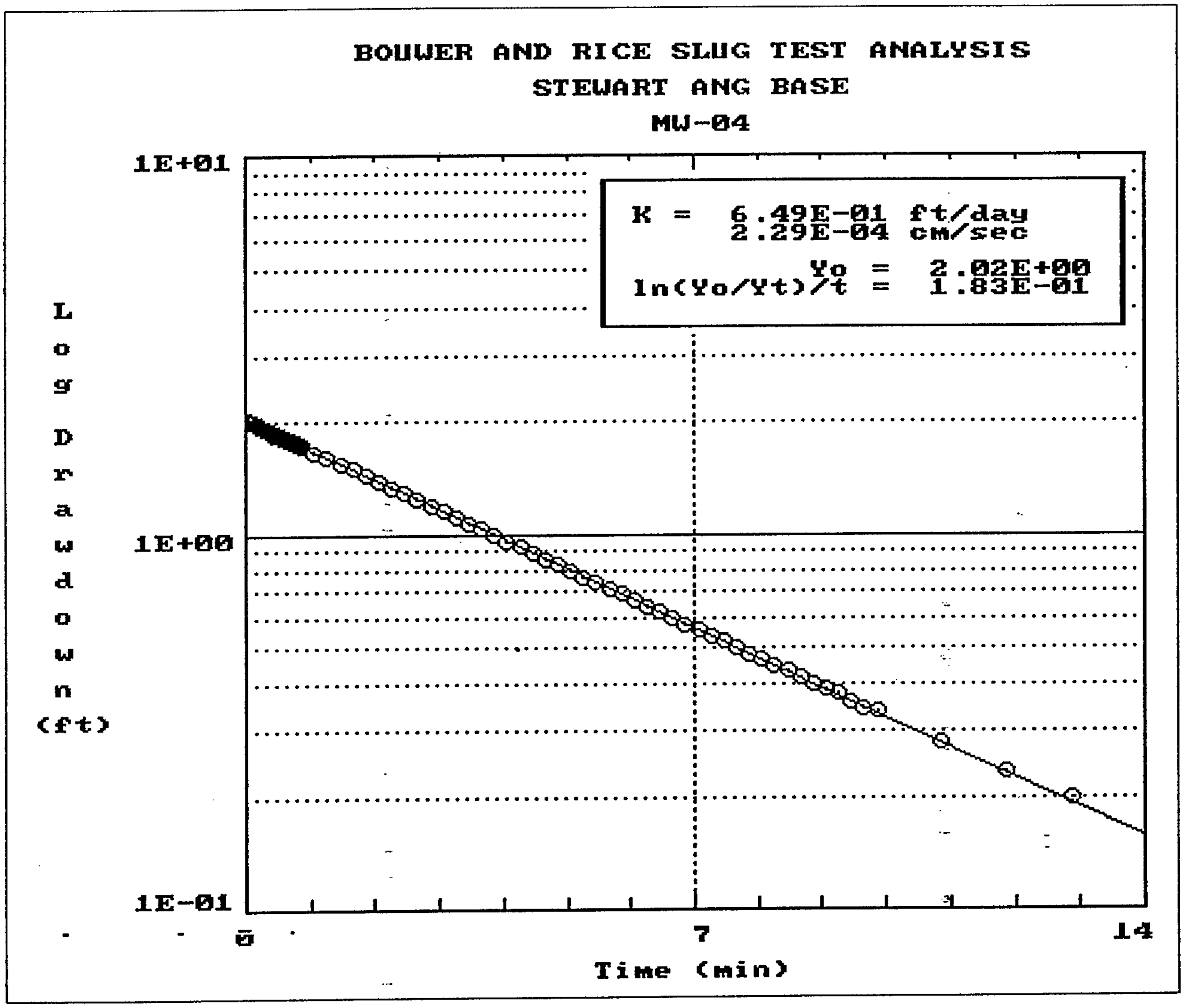
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	2.041	2	0.0084	2.034	3	0.0167	2.034
4	0.0250	2.028	5	0.0334	2.022	6	0.0417	2.022
7	0.0500	2.015	8	0.0584	2.015	9	0.0667	2.009
10	0.0750	2.009	11	0.0834	2.002	12	0.0917	1.996
13	0.1000	1.996	14	0.1084	1.996	15	0.1167	1.990
16	0.1250	1.990	17	0.1334	1.990	18	0.1417	1.977
19	0.1500	1.977	20	0.1584	1.977	21	0.1667	1.977
22	0.1750	1.964	23	0.1834	1.964	24	0.1917	1.964
25	0.2084	1.958	26	0.2250	1.951	27	0.2417	1.945
28	0.2584	1.932	29	0.2750	1.926	30	0.2917	1.926
31	0.3084	1.913	32	0.3250	1.913	33	0.3417	1.906
34	0.3584	1.900	35	0.3750	1.894	36	0.3917	1.894
37	0.4084	1.881	38	0.4250	1.874	39	0.4417	1.842
40	0.4584	1.868	41	0.4750	1.855	42	0.4917	1.849
43	0.5084	1.849	44	0.5250	1.842	45	0.5417	1.836
46	0.5584	1.830	47	0.5750	1.823	48	0.5917	1.817

STEWART ANG BASE
MW-04
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	0.6084	1.810	50	0.6250	1.804	51	0.6417	1.798
52	0.6584	1.798	53	0.6750	1.785	54	0.6917	1.785
55	0.7084	1.778	56	0.7250	1.772	57	0.7417	1.766
58	0.7584	1.759	59	0.7750	1.753	60	0.7917	1.753
61	0.8084	1.746	62	0.8250	1.740	63	0.8417	1.734
64	0.8584	1.727	65	1.0584	1.663	66	1.2584	1.606
67	1.4584	1.542	68	1.6584	1.490	69	1.8584	1.433
70	2.0584	1.382	71	2.2584	1.330	72	2.4584	1.286
73	2.6584	1.234	74	2.8584	1.190	75	3.0584	1.151
76	3.2584	1.106	77	3.4584	1.068	78	3.6584	1.030
79	3.8584	0.991	80	4.0584	0.953	81	4.2584	0.921
82	4.4584	0.889	83	4.6584	0.857	84	4.8584	0.825
85	5.0584	0.793	86	5.2584	0.767	87	5.4584	0.742
88	5.6584	0.716	89	5.8584	0.690	90	6.0584	0.665
91	6.2584	0.639	92	6.4584	0.620	93	6.6584	0.594
94	6.8584	0.575	95	7.0584	0.556	96	7.2584	0.537
97	7.4584	0.518	98	7.6584	0.499	99	7.8584	0.479
100	8.0584	0.467	101	8.2584	0.447	102	8.4584	0.435
103	8.6584	0.415	104	8.8584	0.403	105	9.0584	0.390
106	9.2584	0.377	107	9.4584	0.358	108	9.6584	0.345
109	9.8584	0.339	110	10.8584	0.281	111	11.8584	0.236
112	12.8584	0.198						

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-04
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-04 DUPLICATE
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	6.67E-01	ft/day
	2.35E-04	cm/sec
Y-Intercept (Yo):	2.09E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	0.00	
Dimensionless Parameter B:	0.00	
Slope of Line [ln(Yo/Yt)/t]:	1.877E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	3.536	
Effective Radius [Re]:	5.67	ft
Volume Tested [rw<Vol<Re]:	5.04E+02	ft^3

Well/Aquifer Parameters

Depth of well:	27.72	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

Time vs Drawdown Data

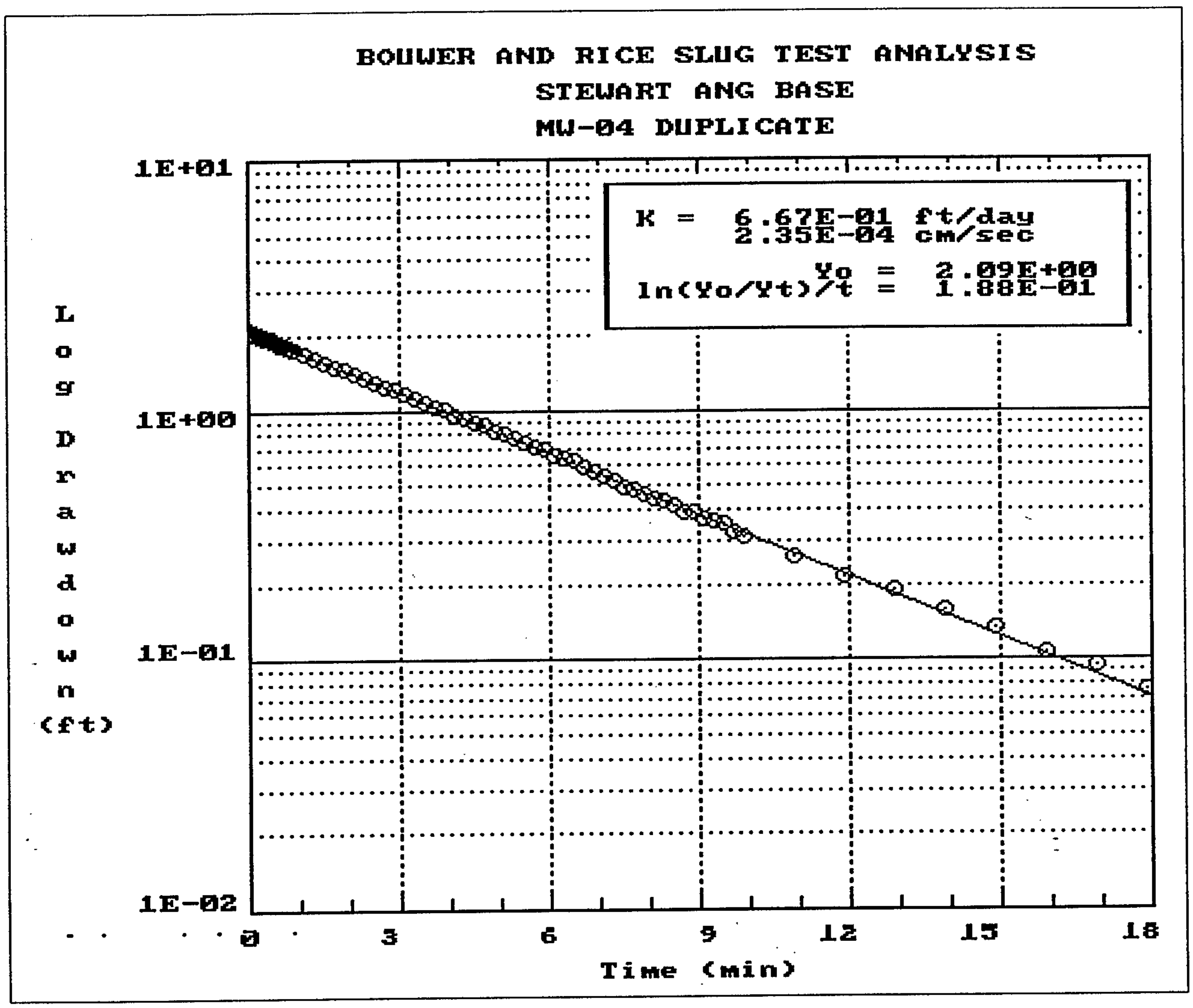
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	2.117	2	0.0083	2.098	3	0.0167	2.105
4	0.0250	2.098	5	0.0333	2.085	6	0.0417	2.098
7	0.0500	2.079	8	0.0583	2.085	9	0.0667	2.079
10	0.0750	2.079	11	0.0833	2.079	12	0.0917	2.066
13	0.1000	2.066	14	0.1083	2.073	15	0.1167	2.060
16	0.1250	2.060	17	0.1333	2.053	18	0.1417	2.047
19	0.1500	2.041	20	0.1583	2.034	21	0.1667	2.041
22	0.1750	2.041	23	0.1833	2.028	24	0.1917	2.034
25	0.2000	2.021	26	0.2083	2.028	27	0.2167	2.028
28	0.2250	2.015	29	0.2417	2.009	30	0.2583	2.002
31	0.2750	1.989	32	0.2917	1.996	33	0.3083	1.989
34	0.3250	1.970	35	0.3417	1.977	36	0.3583	1.964
37	0.3750	1.964	38	0.3917	1.951	39	0.4083	1.945
40	0.4250	1.945	41	0.4417	1.932	42	0.4583	1.925
43	0.4750	1.913	44	0.4917	1.913	45	0.5083	1.906
46	0.5250	1.906	47	0.5417	1.887	48	0.5583	1.881
49	0.5750	1.874	50	0.5917	1.874	51	0.6083	1.861

STEWART ANG BASE
MW-04 DUPLICATE
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.6250	1.868	53	0.6417	1.855	54	0.6583	1.842
55	0.6750	1.849	56	0.6917	1.836	57	0.7083	1.829
58	0.7250	1.823	59	0.7417	1.817	60	0.7583	1.810
61	0.7750	1.810	62	0.7917	1.804	63	0.8083	1.797
64	0.8250	1.797	65	0.8417	1.785	66	0.8583	1.785
67	0.8750	1.778	68	0.8917	1.778	69	1.0917	1.708
70	1.2917	1.637	71	1.4917	1.573	72	1.6917	1.509
73	1.8917	1.465	74	2.0917	1.401	75	2.2917	1.350
76	2.4917	1.305	77	2.6917	1.254	78	2.8917	1.209
79	3.0917	1.170	80	3.2917	1.119	81	3.4917	1.081
82	3.6917	1.036	83	3.8917	1.010	84	4.0917	0.959
85	4.2917	0.927	86	4.4917	0.902	87	4.6917	0.870
88	4.8917	0.825	89	5.0917	0.806	90	5.2917	0.774
91	5.4917	0.742	92	5.6917	0.716	93	5.8917	0.697
94	6.0917	0.658	95	6.2917	0.646	96	6.4917	0.626
97	6.6917	0.594	98	6.8917	0.575	99	7.0917	0.550
100	7.2917	0.524	101	7.4917	0.492	102	7.6917	0.486
103	7.8917	0.467	104	8.0917	0.447	105	8.2917	0.435
106	8.4917	0.415	107	8.6917	0.396	108	8.8917	0.390
109	9.0917	0.371	110	9.2917	0.358	111	9.4917	0.351
112	9.6917	0.326	113	9.8917	0.313	114	10.8917	0.262
115	11.8917	0.217	116	12.8917	0.191	117	13.8917	0.159
118	14.8917	0.134	119	15.8917	0.108	120	16.8917	0.095
121	17.8917	0.076						

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-04 DUPLICATE
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-05
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	1.02E-01	ft/day
	3.60E-05	cm/sec
Y-Intercept (Yo):	2.03E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	0.00	
Dimensionless Parameter B:	0.00	
Slope of Line [ln(Yo/Yt)/t]:	2.820E-02	1/min
Well Parameters (Rc^2 / 2*Le):	6.889E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	3.648	
Effective Radius [Re]:	6.33	ft
Volume Tested [rw<Vol<Re]:	6.30E+02	ft^3

Well/Aquifer Parameters

Depth of well:	34.36	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.166	ft
Diameter of the well filter:	0.330	ft

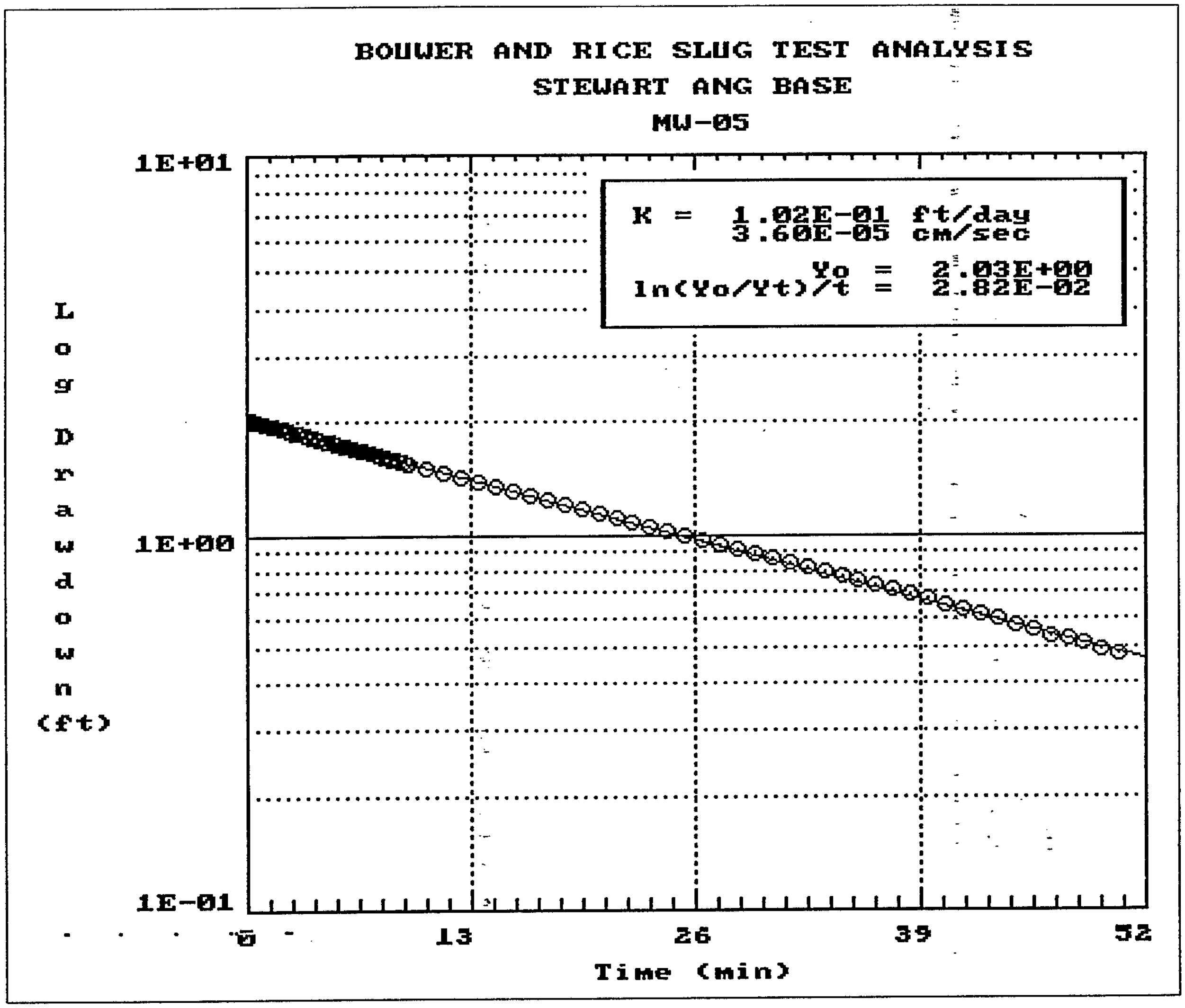
Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	2.038	2	0.0166	2.031	3	0.0333	2.031
4	0.0500	2.031	5	0.0666	2.031	6	0.0833	2.031
7	0.1000	2.031	8	0.1166	2.025	9	0.1333	2.025
10	0.1500	2.025	11	0.1666	2.025	12	0.1833	2.025
13	0.2000	2.018	14	0.2166	2.018	15	0.2333	2.018
16	0.2500	2.018	17	0.2666	2.018	18	0.2833	2.018
19	0.3000	2.012	20	0.3166	2.012	21	0.3333	2.012
22	0.3500	2.012	23	0.3666	2.012	24	0.3833	2.012
25	0.4000	2.006	26	0.4166	2.006	27	0.4333	2.006
28	0.4500	2.006	29	0.6500	1.993	30	0.8500	1.980
31	1.0500	1.967	32	1.2500	1.954	33	1.4500	1.942
34	1.6500	1.935	35	1.8500	1.922	36	2.0500	1.909
37	2.2500	1.897	38	2.4500	1.890	39	2.6500	1.877
40	2.8500	1.865	41	3.0500	1.858	42	3.2500	1.845
43	3.4500	1.833	44	3.6500	1.826	45	3.8500	1.813
46	4.0500	1.801	47	4.2500	1.788	48	4.4500	1.781
49	4.6500	1.768	50	4.8500	1.762	51	5.0500	1.749

STEWART ANG BASE
MW-05
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	5.2500	1.743	53	5.4500	1.730	54	5.6500	1.717
55	5.8500	1.711	56	6.0500	1.704	57	6.2500	1.692
58	6.4500	1.679	59	6.6500	1.672	60	6.8500	1.666
61	7.0500	1.653	62	7.2500	1.647	63	7.4500	1.634
64	7.6500	1.627	65	7.8500	1.615	66	8.0500	1.608
67	8.2500	1.595	68	8.4500	1.589	69	8.6500	1.576
70	8.8500	1.570	71	9.0500	1.563	72	9.2500	1.551
73	9.4500	1.544	74	10.4500	1.506	75	11.4500	1.461
76	12.4500	1.422	77	13.4500	1.384	78	14.4500	1.345
79	15.4500	1.313	80	16.4500	1.275	81	17.4500	1.243
82	18.4500	1.211	83	19.4500	1.172	84	20.4500	1.140
85	21.4500	1.108	86	22.4500	1.083	87	23.4500	1.051
88	24.4500	1.025	89	25.4500	0.999	90	26.4500	0.967
91	27.4500	0.942	92	28.4500	0.916	93	29.4500	0.890
94	30.4500	0.865	95	31.4500	0.839	96	32.4500	0.820
97	33.4500	0.794	98	34.4500	0.775	99	35.4500	0.756
100	36.4500	0.730	101	37.4500	0.711	102	38.4500	0.692
103	39.4500	0.672	104	40.4500	0.647	105	41.4500	0.634
106	42.4500	0.615	107	43.4500	0.595	108	44.4500	0.576
109	45.4500	0.557	110	46.4500	0.538	111	47.4500	0.525
112	48.4500	0.512	113	49.4500	0.493	114	50.4500	0.480

STEWART ANG BASE
MW-05
Kim Kutawski, Aneptek Corp.



BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-06-1996

STEWART ANG BASE
MW-06
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	4.47E-01	ft/day
	1.58E-04	cm/sec
Y-Intercept (Yo):	1.56E+00	ft
Well Screen Ratio (Le/rw):	14.6	
Dimensionless Parameter A:	1.99	
Dimensionless Parameter B:	0.30	
Slope of Line [ln(Yo/Yt)/t]:	2.481E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	1.796	
Effective Radius [Re]:	2.07	ft
Volume Tested [rw<Vol<Re]:	6.55E+01	ft^3

Well/Aquifer Parameters

Depth of well:	8.59	ft
Length of well screen:	5.00	ft
Saturated thickness:	23.09	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.687	ft

Time vs Drawdown Data

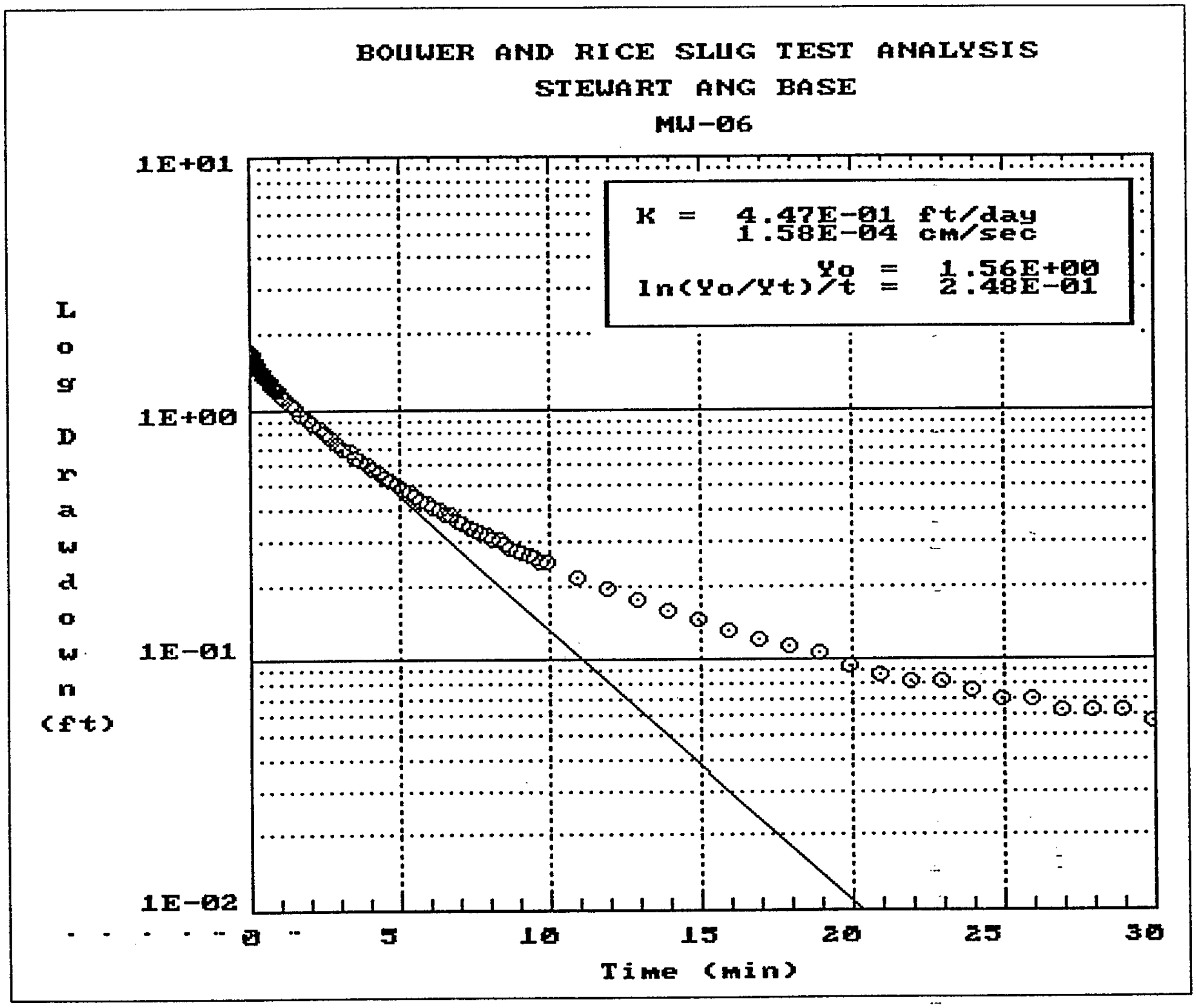
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.715	2	0.0083	1.702	3	0.0167	1.689
4	0.0250	1.670	5	0.0333	1.657	6	0.0417	1.651
7	0.0500	1.638	8	0.0583	1.632	9	0.0667	1.619
10	0.0750	1.613	11	0.0833	1.607	12	0.0917	1.594
13	0.1000	1.594	14	0.1083	1.581	15	0.1167	1.575
16	0.1250	1.568	17	0.1333	1.562	18	0.1417	1.556
19	0.1500	1.549	20	0.1583	1.543	21	0.1667	1.537
22	0.1750	1.530	23	0.1833	1.524	24	0.1917	1.518
25	0.2000	1.518	26	0.2083	1.505	27	0.2167	1.499
28	0.2250	1.492	29	0.2417	1.486	30	0.2583	1.473
31	0.2750	1.460	32	0.2917	1.454	33	0.3083	1.441
34	0.3250	1.435	35	0.3417	1.422	36	0.3583	1.416
37	0.3750	1.410	38	0.3917	1.397	39	0.4083	1.391
40	0.4250	1.378	41	0.4417	1.372	42	0.4583	1.365
43	0.4750	1.352	44	0.4917	1.346	45	0.5083	1.340
46	0.5250	1.333	47	0.5417	1.327	48	0.5583	1.314

STEWART ANG BASE
MW-06
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	0.5750	1.308	50	0.5917	1.302	51	0.6083	1.295
52	0.6250	1.289	53	0.6417	1.283	54	0.6583	1.276
55	0.6750	1.270	56	0.6917	1.264	57	0.7083	1.251
58	0.7250	1.251	59	0.7417	1.238	60	0.7583	1.232
61	0.7750	1.225	62	0.7917	1.225	63	0.8083	1.219
64	0.8250	1.213	65	0.8417	1.206	66	0.8583	1.200
67	0.8750	1.194	68	0.8917	1.187	69	1.0917	1.117
70	1.2917	1.060	71	1.4917	1.009	72	1.6917	0.959
73	1.8917	0.914	74	2.0917	0.876	75	2.2917	0.838
76	2.4917	0.800	77	2.6917	0.768	78	2.8917	0.736
79	3.0917	0.705	80	3.2917	0.679	81	3.4917	0.647
82	3.6917	0.628	83	3.8917	0.603	84	4.0917	0.584
85	4.2917	0.558	86	4.4917	0.539	87	4.6917	0.520
88	4.8917	0.508	89	5.0917	0.482	90	5.2917	0.469
91	5.4917	0.457	92	5.6917	0.438	93	5.8917	0.425
94	6.0917	0.412	95	6.2917	0.400	96	6.4917	0.387
97	6.6917	0.381	98	6.8917	0.362	99	7.0917	0.355
100	7.2917	0.342	101	7.4917	0.336	102	7.6917	0.323
103	7.8917	0.317	104	8.0917	0.304	105	8.2917	0.304
106	8.4917	0.292	107	8.6917	0.285	108	8.8917	0.279
109	9.0917	0.273	110	9.2917	0.266	111	9.4917	0.260
112	9.6917	0.247	113	9.8917	0.247	114	10.8917	0.215
115	11.8917	0.196	116	12.8917	0.177	117	13.8917	0.158
118	14.8917	0.146	119	15.8917	0.133	120	16.8917	0.120
121	17.8917	0.114	122	18.8917	0.107	123	19.8917	0.095
124	20.8917	0.088	125	21.8917	0.082	126	22.8917	0.082
127	23.8917	0.076	128	24.8917	0.069	129	25.8917	0.069
130	26.8917	0.063	131	27.8917	0.063	132	28.8917	0.063
133	29.8917	0.057						

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-06-1996

STEWART ANG BASE
MW-06
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-07
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	5.33E-01	ft/day
	1.88E-04	cm/sec
Y-Intercept (Yo):	1.58E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	0.00	
Dimensionless Parameter B:	0.00	
Slope of Line [ln(Yo/Yt)/t]:	1.527E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	3.479	
Effective Radius [Re]:	5.35	ft
Volume Tested [rw<Vol<Re]:	4.49E+02	ft^3

Well/Aquifer Parameters

Depth of well:	24.86	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

Time vs Drawdown Data

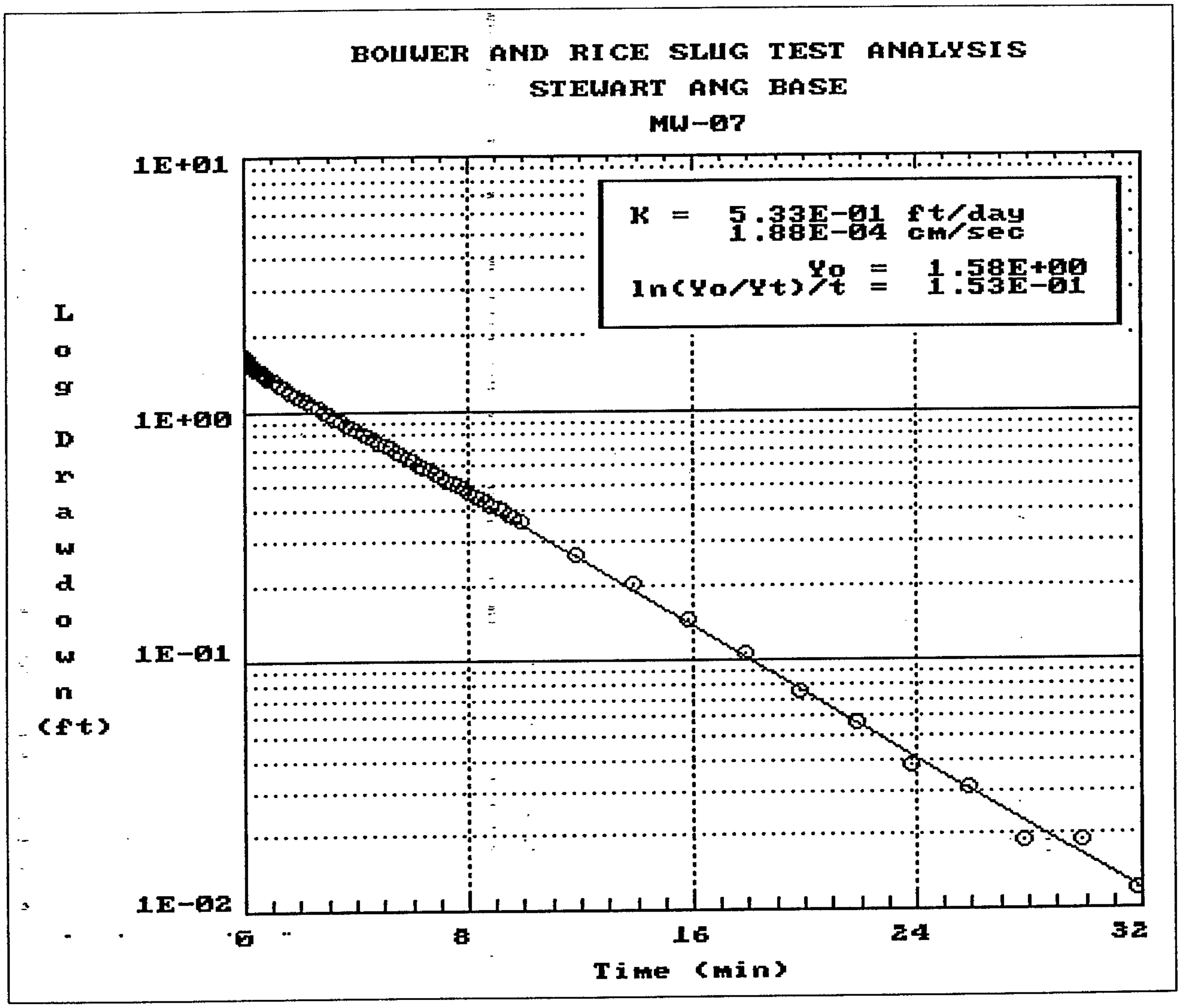
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0010	1.656	2	0.0083	1.644	3	0.0166	1.637
4	0.0250	1.637	5	0.0333	1.624	6	0.0416	1.624
7	0.0500	1.618	8	0.0583	1.612	9	0.0666	1.605
10	0.0750	1.605	11	0.0833	1.599	12	0.0916	1.593
13	0.1000	1.586	14	0.1083	1.586	15	0.1166	1.580
16	0.1250	1.580	17	0.1333	1.573	18	0.1416	1.573
19	0.1500	1.567	20	0.1583	1.561	21	0.1750	1.561
22	0.1916	1.554	23	0.2083	1.542	24	0.2250	1.535
25	0.2416	1.529	26	0.2583	1.529	27	0.2750	1.522
28	0.2916	1.516	29	0.3083	1.510	30	0.3250	1.503
31	0.3416	1.497	32	0.3583	1.491	33	0.3750	1.491
34	0.3916	1.484	35	0.4083	1.478	36	0.4250	1.471
37	0.4416	1.471	38	0.4583	1.465	39	0.4750	1.459
40	0.4916	1.452	41	0.5083	1.446	42	0.5250	1.446
43	0.5416	1.440	44	0.5583	1.433	45	0.5750	1.433
46	0.5916	1.427	47	0.6083	1.421	48	0.6250	1.414

STEWART ANG BASE
MW-07
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	0.6416	1.414	50	0.6583	1.408	51	0.6750	1.408
52	0.6916	1.401	53	0.7083	1.395	54	0.7250	1.389
55	0.7416	1.389	56	0.7583	1.382	57	0.7750	1.376
58	0.7916	1.376	59	0.8083	1.370	60	0.8250	1.363
61	1.0250	1.325	62	1.2250	1.274	63	1.4250	1.236
64	1.6250	1.197	65	1.8250	1.159	66	2.0250	1.127
67	2.2250	1.095	68	2.4250	1.057	69	2.6250	1.032
70	2.8250	0.994	71	3.0250	0.974	72	3.2250	0.943
73	3.4250	0.917	74	3.6250	0.885	75	3.8250	0.866
76	4.0250	0.841	77	4.2250	0.815	78	4.4250	0.790
79	4.6250	0.770	80	4.8250	0.751	81	5.0250	0.726
82	5.2250	0.707	83	5.4250	0.688	84	5.6250	0.669
85	5.8250	0.649	86	6.0250	0.630	87	6.2250	0.611
88	6.4250	0.598	89	6.6250	0.579	90	6.8250	0.560
91	7.0250	0.547	92	7.2250	0.528	93	7.4250	0.516
94	7.6250	0.503	95	7.8250	0.490	96	8.0250	0.477
97	8.2250	0.458	98	8.4250	0.446	99	8.6250	0.439
100	8.8250	0.420	101	9.0250	0.407	102	9.2250	0.401
103	9.4250	0.388	104	9.6250	0.375	105	9.8250	0.363
106	11.8250	0.267	107	13.8250	0.203	108	15.8250	0.146
109	17.8250	0.108	110	19.8250	0.076	111	21.8250	0.057
112	23.8250	0.038	113	25.8250	0.031	114	27.8250	0.019
115	29.8250	0.019	116	31.8250	0.012	117	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-07
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-07 DUPLICATE
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	4.46E-01	ft/day
	1.57E-04	cm/sec
Y-Intercept (Yo):	1.58E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	0.00	
Dimensionless Parameter B:	0.00	
Slope of Line [ln(Yo/Yt)/t]:	1.277E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	3.479	
Effective Radius [Re]:	5.35	ft
Volume Tested [rw<Vol<Re]:	4.49E+02	ft^3

Well/Aquifer Parameters

Depth of well:	24.86	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

Time vs Drawdown Data

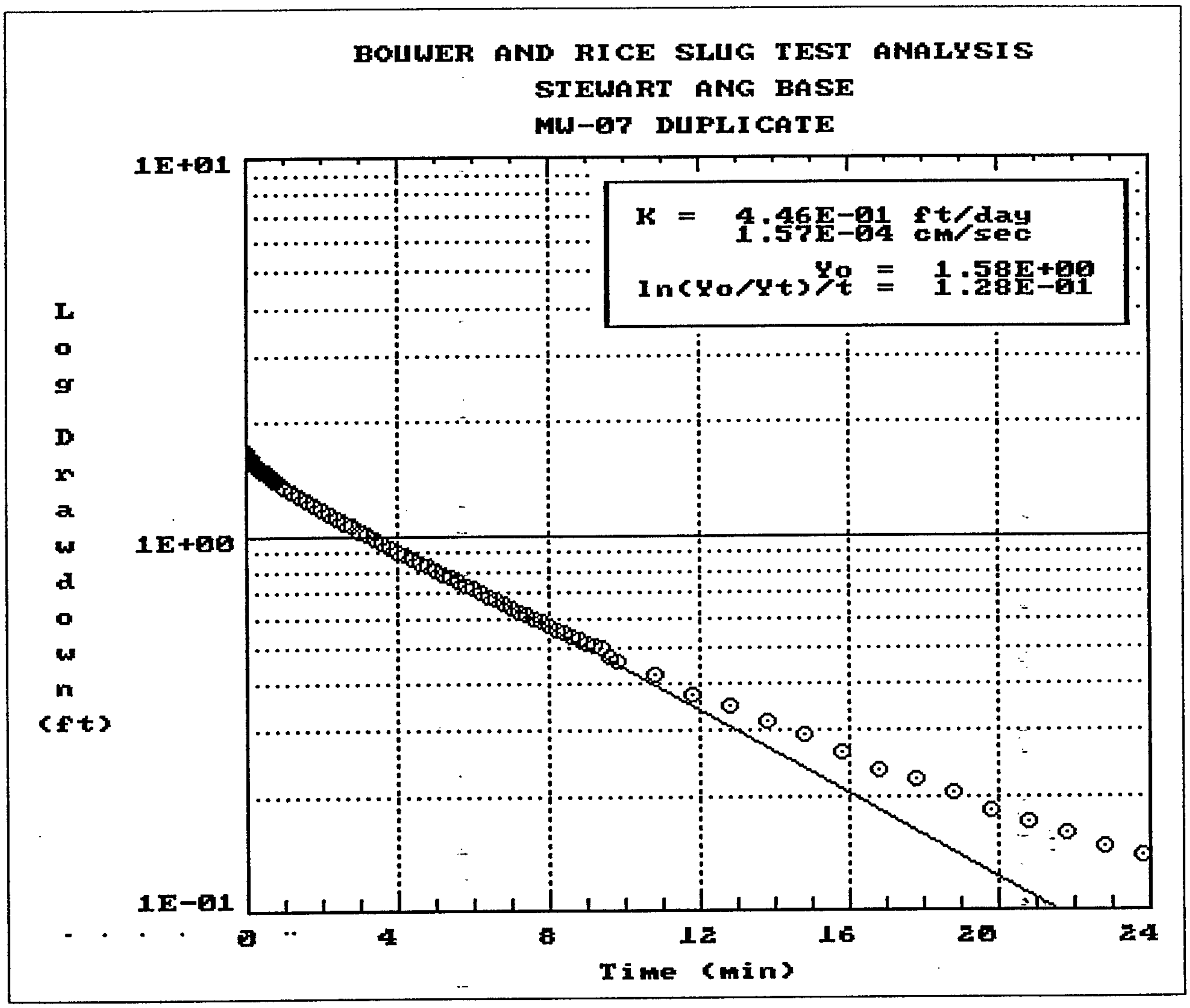
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.669	2	0.0083	1.656	3	0.0167	1.650
4	0.0250	1.644	5	0.0333	1.637	6	0.0417	1.631
7	0.0500	1.625	8	0.0583	1.625	9	0.0667	1.618
10	0.0750	1.612	11	0.0833	1.612	12	0.0917	1.605
13	0.1000	1.599	14	0.1083	1.599	15	0.1167	1.593
16	0.1250	1.593	17	0.1333	1.586	18	0.1417	1.580
19	0.1500	1.580	20	0.1667	1.574	21	0.1833	1.567
22	0.2000	1.561	23	0.2167	1.554	24	0.2333	1.548
25	0.2500	1.542	26	0.2667	1.535	27	0.2833	1.535
28	0.3000	1.529	29	0.3167	1.523	30	0.3333	1.516
31	0.3500	1.510	32	0.3667	1.503	33	0.3833	1.503
34	0.4000	1.497	35	0.4167	1.491	36	0.4333	1.484
37	0.4500	1.484	38	0.4667	1.478	39	0.4833	1.472
40	0.5000	1.472	41	0.5167	1.465	42	0.5333	1.459
43	0.5500	1.459	44	0.5667	1.452	45	0.5833	1.452
46	0.6000	1.446	47	0.6167	1.440	48	0.6333	1.440
49	0.6500	1.433	50	0.6667	1.427	51	0.6833	1.427

STEWART ANG BASE
MW-07 DUPLICATE
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.7000	1.421	53	0.7167	1.421	54	0.7333	1.414
55	0.7500	1.408	56	0.7667	1.408	57	0.7833	1.401
58	0.8000	1.401	59	0.8167	1.395	60	1.0167	1.350
61	1.2167	1.306	62	1.4167	1.274	63	1.6167	1.236
64	1.8167	1.204	65	2.0167	1.166	66	2.2167	1.140
67	2.4167	1.108	68	2.6167	1.076	69	2.8167	1.057
70	3.0167	1.025	71	3.2167	1.006	72	3.4167	0.981
73	3.6167	0.949	74	3.8167	0.930	75	4.0167	0.904
76	4.2167	0.892	77	4.4167	0.866	78	4.6167	0.847
79	4.8167	0.828	80	5.0167	0.809	81	5.2167	0.790
82	5.4167	0.771	83	5.6167	0.751	84	5.8167	0.732
85	6.0167	0.720	86	6.2167	0.700	87	6.4167	0.688
88	6.6167	0.675	89	6.8167	0.656	90	7.0167	0.637
91	7.2167	0.624	92	7.4167	0.611	93	7.6167	0.598
94	7.8167	0.586	95	8.0167	0.573	96	8.2167	0.560
97	8.4167	0.547	98	8.6167	0.535	99	8.8167	0.528
100	9.0167	0.516	101	9.2167	0.503	102	9.4167	0.497
103	9.6167	0.471	104	9.8167	0.458	105	10.8167	0.426
106	11.8167	0.375	107	12.8167	0.350	108	13.8167	0.318
109	14.8167	0.293	110	15.8167	0.261	111	16.8167	0.235
112	17.8167	0.223	113	18.8167	0.203	114	19.8167	0.184
115	20.8167	0.172	116	21.8167	0.159	117	22.8167	0.146
118	23.8167	0.140						

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-07 DUPLICATE
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-08
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	1.30E+00	ft/day
	4.58E-04	cm/sec
Y-Intercept (Yo):	1.62E+00	ft
Well Screen Ratio (Le/rw):	14.6	
Dimensionless Parameter A:	0.00	
Dimensionless Parameter B:	0.00	
Slope of Line [ln(Yo/Yt)/t]:	5.455E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.372	
Effective Radius [Re]:	3.68	ft
Volume Tested [rw<Vol<Re]:	2.11E+02	ft^3

Well/Aquifer Parameters

Depth of well:	10.72	ft
Length of well screen:	5.00	ft
Saturated thickness:	10.42	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.687	ft

Time vs Drawdown Data

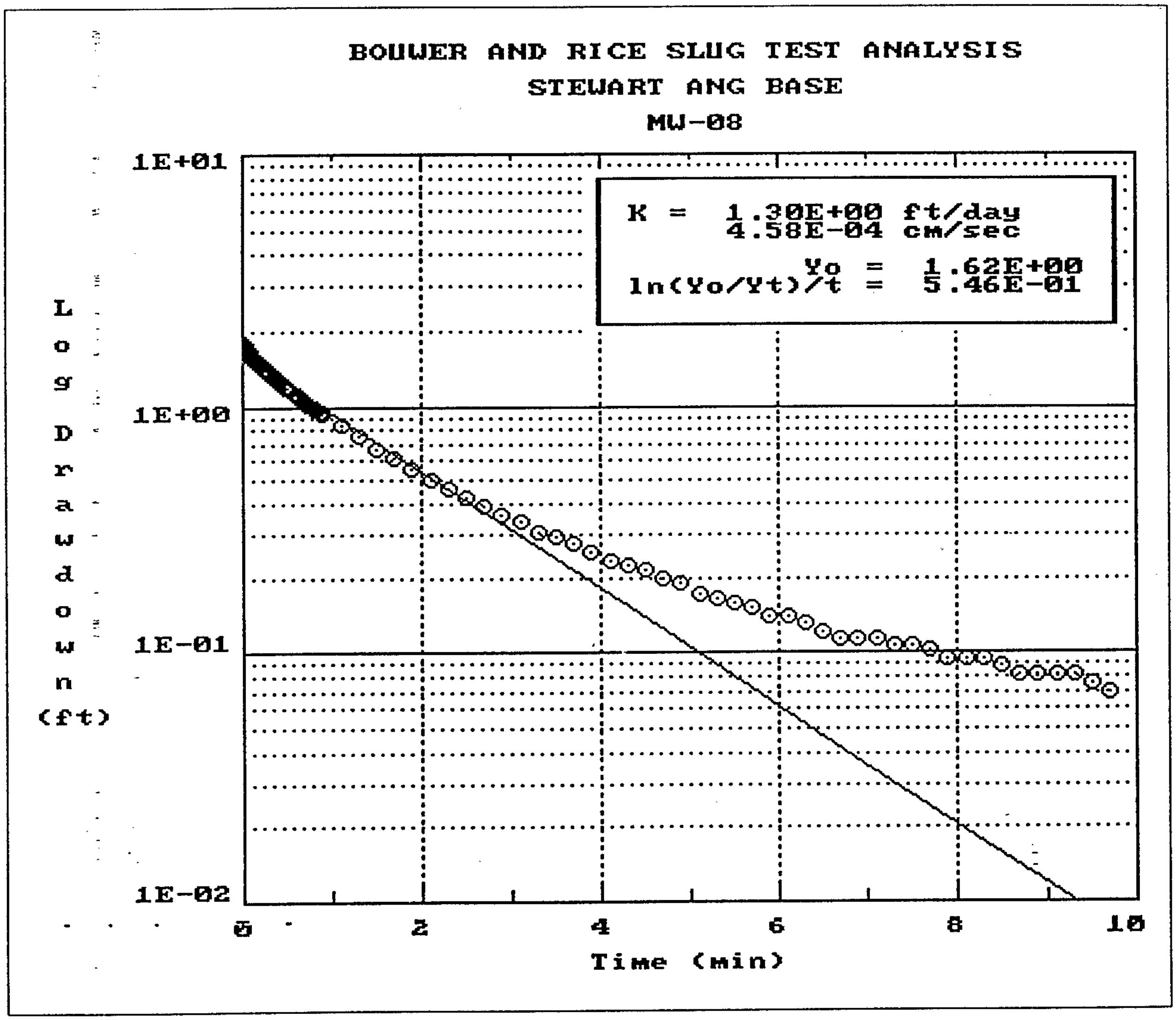
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.824	2	0.0083	1.773	3	0.0166	1.767
4	0.0250	1.748	5	0.0333	1.729	6	0.0416	1.703
7	0.0500	1.703	8	0.0583	1.678	9	0.0666	1.671
10	0.0750	1.646	11	0.0833	1.633	12	0.0916	1.614
13	0.1000	1.601	14	0.1083	1.588	15	0.1166	1.575
16	0.1250	1.575	17	0.1333	1.556	18	0.1416	1.550
19	0.1500	1.544	20	0.1583	1.531	21	0.1666	1.518
22	0.1750	1.499	23	0.1833	1.486	24	0.1916	1.486
25	0.2000	1.473	26	0.2083	1.467	27	0.2166	1.454
28	0.2250	1.448	29	0.2333	1.435	30	0.2500	1.416
31	0.2666	1.397	32	0.2833	1.384	33	0.3000	1.359
34	0.3166	1.346	35	0.3333	1.333	36	0.3500	1.320
37	0.3666	1.301	38	0.3833	1.295	39	0.4000	1.269
40	0.4166	1.263	41	0.4333	1.244	42	0.4500	1.237
43	0.4666	1.212	44	0.4833	1.199	45	0.5000	1.186
46	0.5166	1.173	47	0.5333	1.161	48	0.5500	1.148

STEWART ANG BASE
MW-08
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	0.5666	1.142	50	0.5833	1.129	51	0.6000	1.116
52	0.6166	1.110	53	0.6333	1.097	54	0.6500	1.078
55	0.6666	1.065	56	0.6833	1.065	57	0.7000	1.052
58	0.7166	1.033	59	0.7333	1.020	60	0.7500	1.014
61	0.7666	1.001	62	0.7833	1.001	63	0.8000	0.988
64	0.8166	0.976	65	0.8333	0.963	66	0.8500	0.956
67	0.8666	0.950	68	0.8833	0.944	69	0.9000	0.931
70	1.1000	0.842	71	1.3000	0.752	72	1.5000	0.676
73	1.7000	0.612	74	1.9000	0.561	75	2.1000	0.503
76	2.3000	0.459	77	2.5000	0.427	78	2.7000	0.395
79	2.9000	0.363	80	3.1000	0.338	81	3.3000	0.306
82	3.5000	0.293	83	3.7000	0.274	84	3.9000	0.255
85	4.1000	0.236	86	4.3000	0.223	87	4.5000	0.216
88	4.7000	0.197	89	4.9000	0.191	90	5.1000	0.172
91	5.3000	0.165	92	5.5000	0.159	93	5.7000	0.153
94	5.9000	0.140	95	6.1000	0.140	96	6.3000	0.133
97	6.5000	0.121	98	6.7000	0.114	99	6.9000	0.114
100	7.1000	0.114	101	7.3000	0.108	102	7.5000	0.108
103	7.7000	0.102	104	7.9000	0.095	105	8.1000	0.095
106	8.3000	0.095	107	8.5000	0.089	108	8.7000	0.082
109	8.9000	0.082	110	9.1000	0.082	111	9.3000	0.082
112	9.5000	0.076	113	9.7000	0.070	114	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-07-1996

STEWART ANG BASE
MW-08
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-08 DUPLICATE
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	1.88E+00	ft/day
	6.64E-04	cm/sec
Y-Intercept (Yo):	1.75E+00	ft
Well Screen Ratio (Le/rw):	14.6	
Dimensionless Parameter A:	2.51	
Dimensionless Parameter B:	0.37	
Slope of Line [ln(Yo/Yt)/t]:	7.994E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.889E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.372	
Effective Radius [Re]:	3.68	ft
Volume Tested [rw<Vol<Re]:	2.11E+02	ft^3

Well/Aquifer Parameters

Depth of well:	10.72	ft
Length of well screen:	5.00	ft
Saturated thickness:	10.42	ft
Diameter of the well casing:	0.166	ft
Diameter of the well filter:	0.687	ft

Time vs Drawdown Data

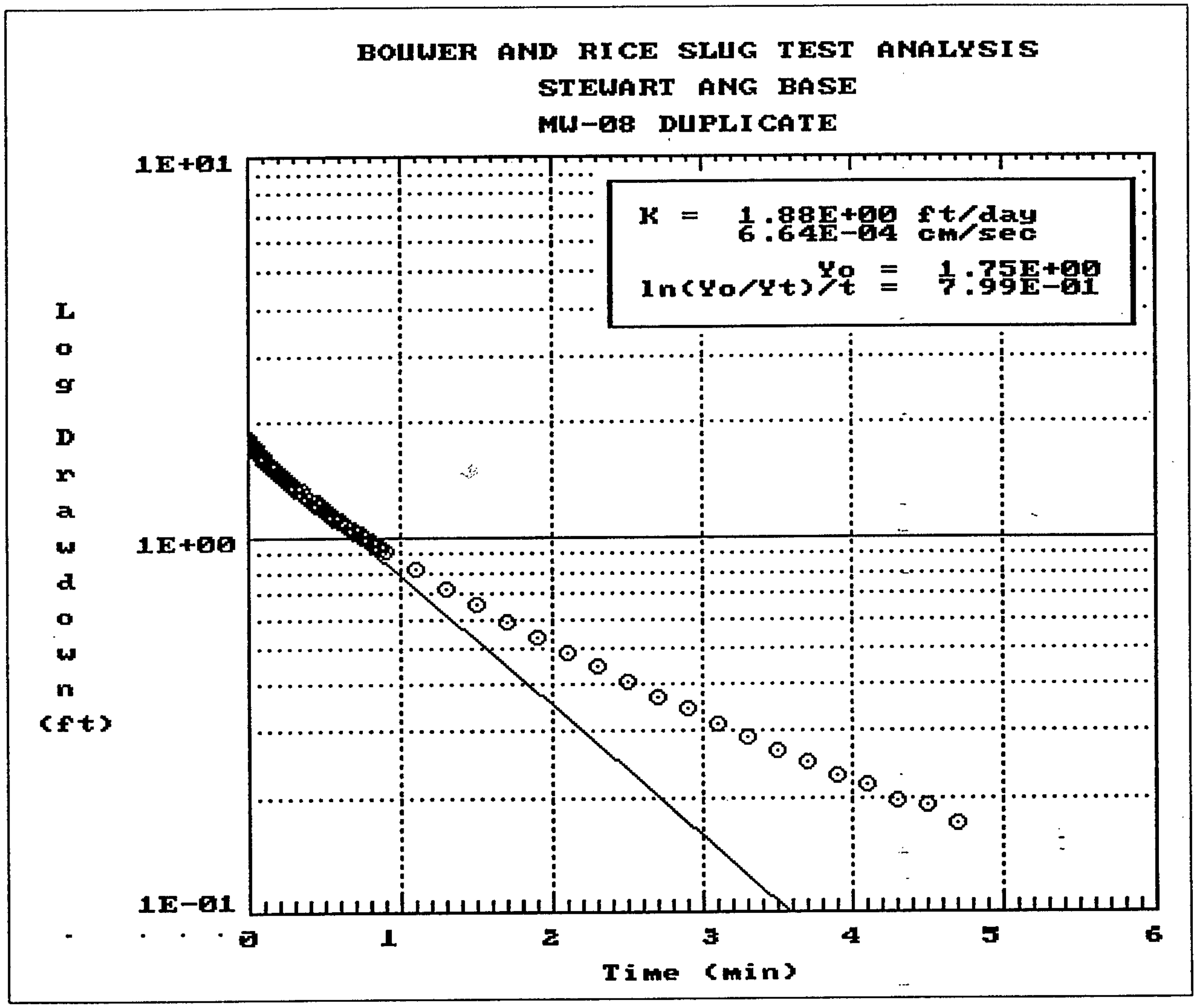
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.824	2	0.0083	1.786	3	0.0167	1.767
4	0.0250	1.741	5	0.0333	1.722	6	0.0417	1.710
7	0.0500	1.690	8	0.0583	1.678	9	0.0667	1.658
10	0.0750	1.646	11	0.0833	1.633	12	0.0917	1.620
13	0.1000	1.607	14	0.1083	1.595	15	0.1167	1.582
16	0.1250	1.569	17	0.1333	1.556	18	0.1417	1.550
19	0.1500	1.531	20	0.1583	1.524	21	0.1667	1.512
22	0.1750	1.505	23	0.1833	1.493	24	0.1917	1.480
25	0.2000	1.473	26	0.2083	1.461	27	0.2167	1.454
28	0.2250	1.442	29	0.2417	1.429	30	0.2583	1.403
31	0.2750	1.390	32	0.2917	1.371	33	0.3083	1.352
34	0.3250	1.333	35	0.3417	1.320	36	0.3583	1.320
37	0.3750	1.288	38	0.3917	1.256	39	0.4083	1.263
40	0.4250	1.244	41	0.4417	1.231	42	0.4583	1.212
43	0.4750	1.199	44	0.4917	1.186	45	0.5083	1.167
46	0.5250	1.161	47	0.5417	1.142	48	0.5583	1.129
49	0.5750	1.116	50	0.5917	1.110	51	0.6083	1.091

STEWART ANG BASE
MW-08 DUPLICATE
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.6250	1.084	53	0.6417	1.071	54	0.6583	1.065
55	0.6750	1.052	56	0.6917	1.039	57	0.7083	1.027
58	0.7250	1.020	59	0.7417	1.008	60	0.7583	0.995
61	0.7750	0.988	62	0.7917	0.976	63	0.8083	0.969
64	0.8250	0.957	65	0.8417	0.950	66	0.8583	0.937
67	0.8750	0.931	68	0.8917	0.918	69	1.0917	0.816
70	1.2917	0.727	71	1.4917	0.657	72	1.6917	0.593
73	1.8917	0.535	74	2.0917	0.484	75	2.2917	0.446
76	2.4917	0.408	77	2.6917	0.370	78	2.8917	0.344
79	3.0917	0.312	80	3.2917	0.287	81	3.4917	0.267
82	3.6917	0.248	83	3.8917	0.229	84	4.0917	0.216
85	4.2917	0.197	86	4.4917	0.191	87	4.6917	0.172

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-08 DUPLICATE
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-09
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	1.64E+00	ft/day
	5.79E-04	cm/sec
Y-Intercept (Yo):	2.00E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	2.51	
Dimensionless Parameter B:	0.37	
Slope of Line [ln(Yo/Yt)/t]:	6.164E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.652	
Effective Radius [Re]:	2.34	ft
Volume Tested [rw<Vol<Re]:	8.56E+01	ft^3

Well/Aquifer Parameters

Depth of well:	14.20	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

Time vs Drawdown Data

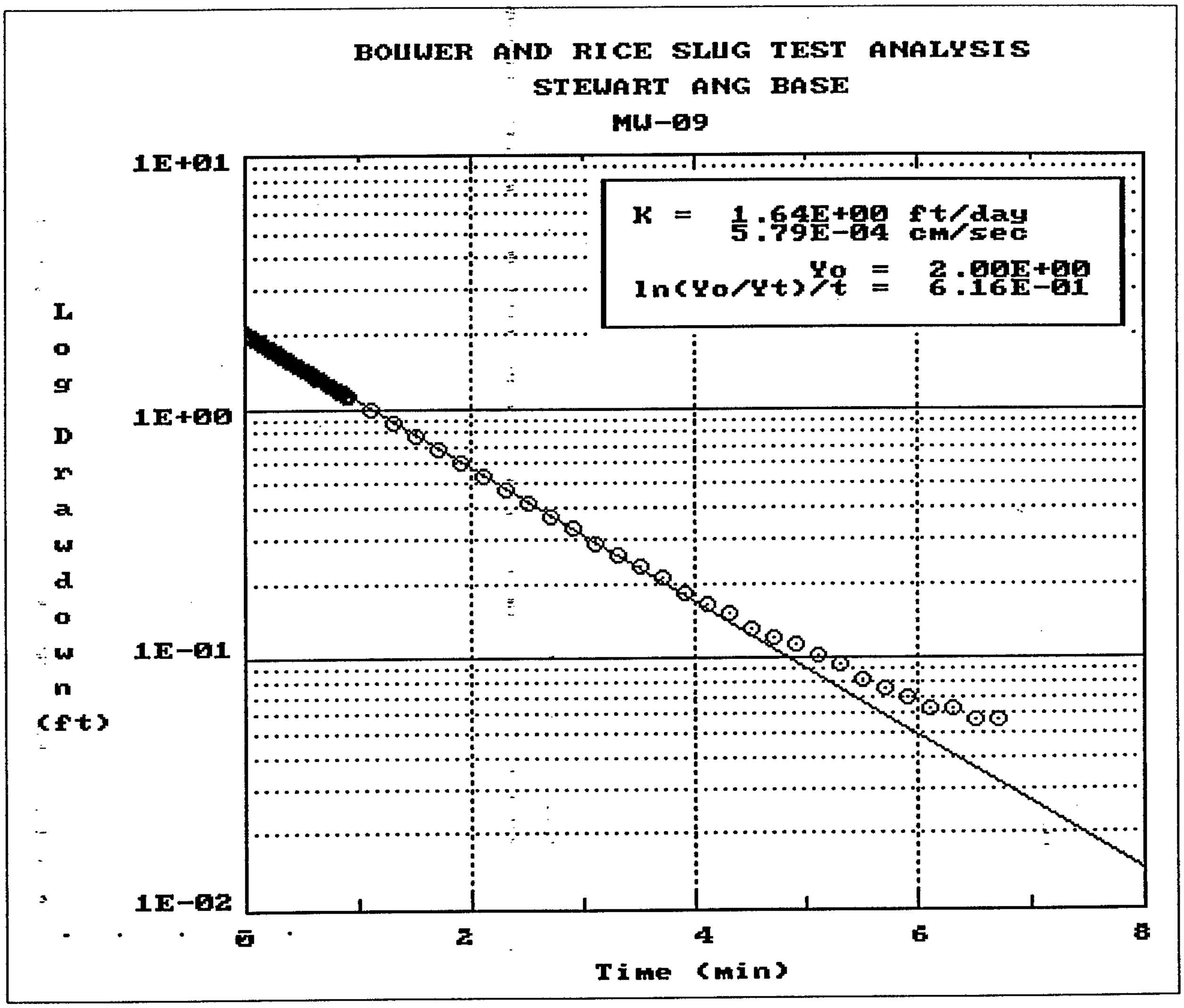
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	2.053	2	0.0083	2.028	3	0.0167	2.015
4	0.0250	2.002	5	0.0333	1.996	6	0.0417	1.977
7	0.0500	1.970	8	0.0583	1.957	9	0.0667	1.945
10	0.0750	1.932	11	0.0833	1.926	12	0.0917	1.913
13	0.1000	1.900	14	0.1083	1.894	15	0.1167	1.881
16	0.1250	1.868	17	0.1333	1.862	18	0.1417	1.849
19	0.1500	1.836	20	0.1583	1.830	21	0.1667	1.817
22	0.1750	1.804	23	0.1833	1.798	24	0.1917	1.785
25	0.2000	1.779	26	0.2083	1.766	27	0.2167	1.760
28	0.2250	1.747	29	0.2333	1.741	30	0.2417	1.728
31	0.2500	1.721	32	0.2667	1.702	33	0.2833	1.683
34	0.3000	1.664	35	0.3167	1.645	36	0.3333	1.626
37	0.3500	1.607	38	0.3667	1.594	39	0.3833	1.575
40	0.4000	1.556	41	0.4167	1.543	42	0.4333	1.524
43	0.4500	1.511	44	0.4667	1.492	45	0.4833	1.479
46	0.5000	1.460	47	0.5167	1.447	48	0.5333	1.428

STEWART ANG BASE
MW-09
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	0.5500	1.415	50	0.5667	1.396	51	0.5833	1.383
52	0.6000	1.371	53	0.6167	1.358	54	0.6333	1.339
55	0.6500	1.326	56	0.6667	1.313	57	0.6833	1.300
58	0.7000	1.288	59	0.7167	1.275	60	0.7333	1.256
61	0.7500	1.249	62	0.7667	1.230	63	0.7833	1.218
64	0.8000	1.205	65	0.8167	1.192	66	0.8333	1.179
67	0.8500	1.173	68	0.8667	1.160	69	0.8833	1.147
70	0.9000	1.135	71	0.9167	1.122	72	1.1167	0.994
73	1.3167	0.873	74	1.5167	0.771	75	1.7167	0.682
76	1.9167	0.605	77	2.1167	0.535	78	2.3167	0.471
79	2.5167	0.414	80	2.7167	0.369	81	2.9167	0.331
82	3.1167	0.286	83	3.3167	0.261	84	3.5167	0.235
85	3.7167	0.210	86	3.9167	0.184	87	4.1167	0.165
88	4.3167	0.153	89	4.5167	0.133	90	4.7167	0.121
91	4.9167	0.114	92	5.1167	0.102	93	5.3167	0.095
94	5.5167	0.082	95	5.7167	0.076	96	5.9167	0.070
97	6.1167	0.063	98	6.3167	0.063	99	6.5167	0.057
100	6.7167	0.057						

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-09
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-09 DUPLICATE
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	1.78E+00	ft/day
	6.29E-04	cm/sec
Y-Intercept (Yo):	1.97E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	2.51	
Dimensionless Parameter B:	0.37	
Slope of Line [ln(Yo/Yt)/t]:	6.699E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.652	
Effective Radius [Re]:	2.34	ft
Volume Tested [rw<Vol<Re]:	8.56E+01	ft^3

Well/Aquifer Parameters

Depth of well:	14.20	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

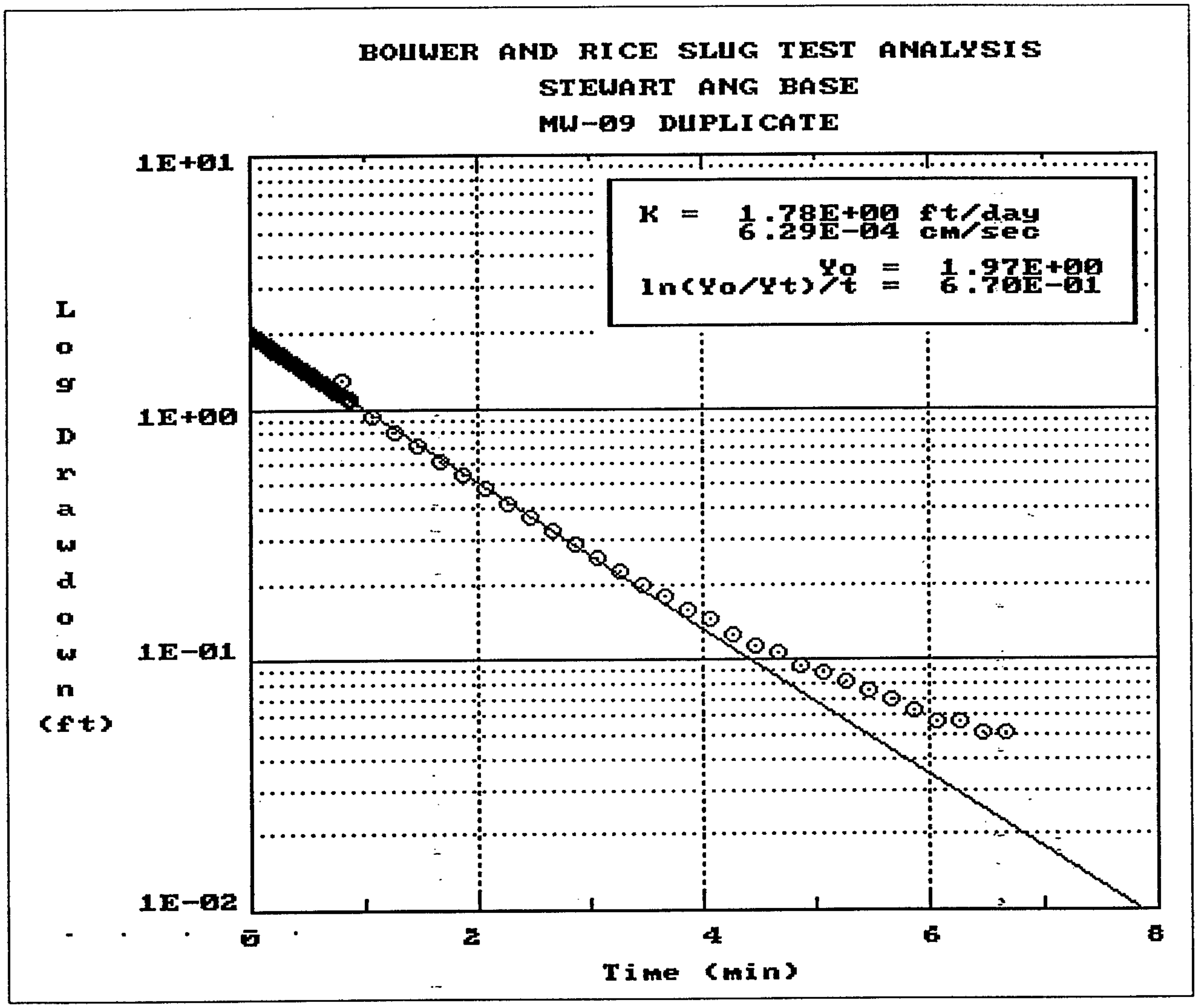
Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.983	2	0.0083	1.983	3	0.0166	1.977
4	0.0250	1.964	5	0.0333	1.951	6	0.0416	1.938
7	0.0500	1.926	8	0.0583	1.913	9	0.0666	1.906
10	0.0750	1.894	11	0.0833	1.881	12	0.0916	1.868
13	0.1000	1.862	14	0.1083	1.849	15	0.1166	1.836
16	0.1250	1.823	17	0.1333	1.811	18	0.1416	1.804
19	0.1500	1.792	20	0.1583	1.779	21	0.1666	1.766
22	0.1750	1.760	23	0.1833	1.747	24	0.1916	1.741
25	0.2000	1.728	26	0.2083	1.715	27	0.2250	1.696
28	0.2416	1.677	29	0.2583	1.658	30	0.2750	1.632
31	0.2916	1.613	32	0.3083	1.600	33	0.3250	1.575
34	0.3416	1.562	35	0.3583	1.543	36	0.3750	1.524
37	0.3916	1.505	38	0.4083	1.492	39	0.4250	1.473
40	0.4416	1.454	41	0.4583	1.441	42	0.4750	1.422
43	0.4916	1.403	44	0.5083	1.390	45	0.5250	1.371
46	0.5416	1.358	47	0.5583	1.339	48	0.5750	1.326
49	0.5916	1.307	50	0.6083	1.294	51	0.6250	1.281

STEWART ANG BASE
MW-09 DUPLICATE
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.6416	1.262	53	0.6583	1.249	54	0.6750	1.237
55	0.6916	1.224	56	0.7083	1.211	57	0.7250	1.192
58	0.7416	1.179	59	0.7583	1.167	60	0.7750	1.154
61	0.7916	1.141	62	0.8083	1.307	63	0.8250	1.115
64	0.8416	1.103	65	0.8583	1.090	66	0.8750	1.077
67	1.0750	0.937	68	1.2750	0.816	69	1.4750	0.714
70	1.6750	0.624	71	1.8750	0.548	72	2.0750	0.478
73	2.2750	0.420	74	2.4750	0.369	75	2.6750	0.325
76	2.8750	0.286	77	3.0750	0.255	78	3.2750	0.223
79	3.4750	0.197	80	3.6750	0.178	81	3.8750	0.159
82	4.0750	0.146	83	4.2750	0.127	84	4.4750	0.114
85	4.6750	0.108	86	4.8750	0.095	87	5.0750	0.089
88	5.2750	0.082	89	5.4750	0.076	90	5.6750	0.070
91	5.8750	0.063	92	6.0750	0.057	93	6.2750	0.057
94	6.4750	0.051	95	6.6750	0.051	96	5.9167	0.070

STEWART ANG BASE
MW-09 DUPLICATE
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-10
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	7.17E-01	ft/day
	2.53E-04	cm/sec
Y-Intercept (Yo):	1.44E+00	ft
Well Screen Ratio (Le/rw):	14.6	
Dimensionless Parameter A:	1.99	
Dimensionless Parameter B:	0.30	
Slope of Line [ln(Yo/Yt)/t]:	3.526E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.026	
Effective Radius [Re]:	2.61	ft
Volume Tested [rw<Vol<Re]:	1.05E+02	ft^3

Well/Aquifer Parameters

Depth of well:	9.75	ft
Length of well screen:	5.00	ft
Saturated thickness:	11.05	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.687	ft

Time vs Drawdown Data

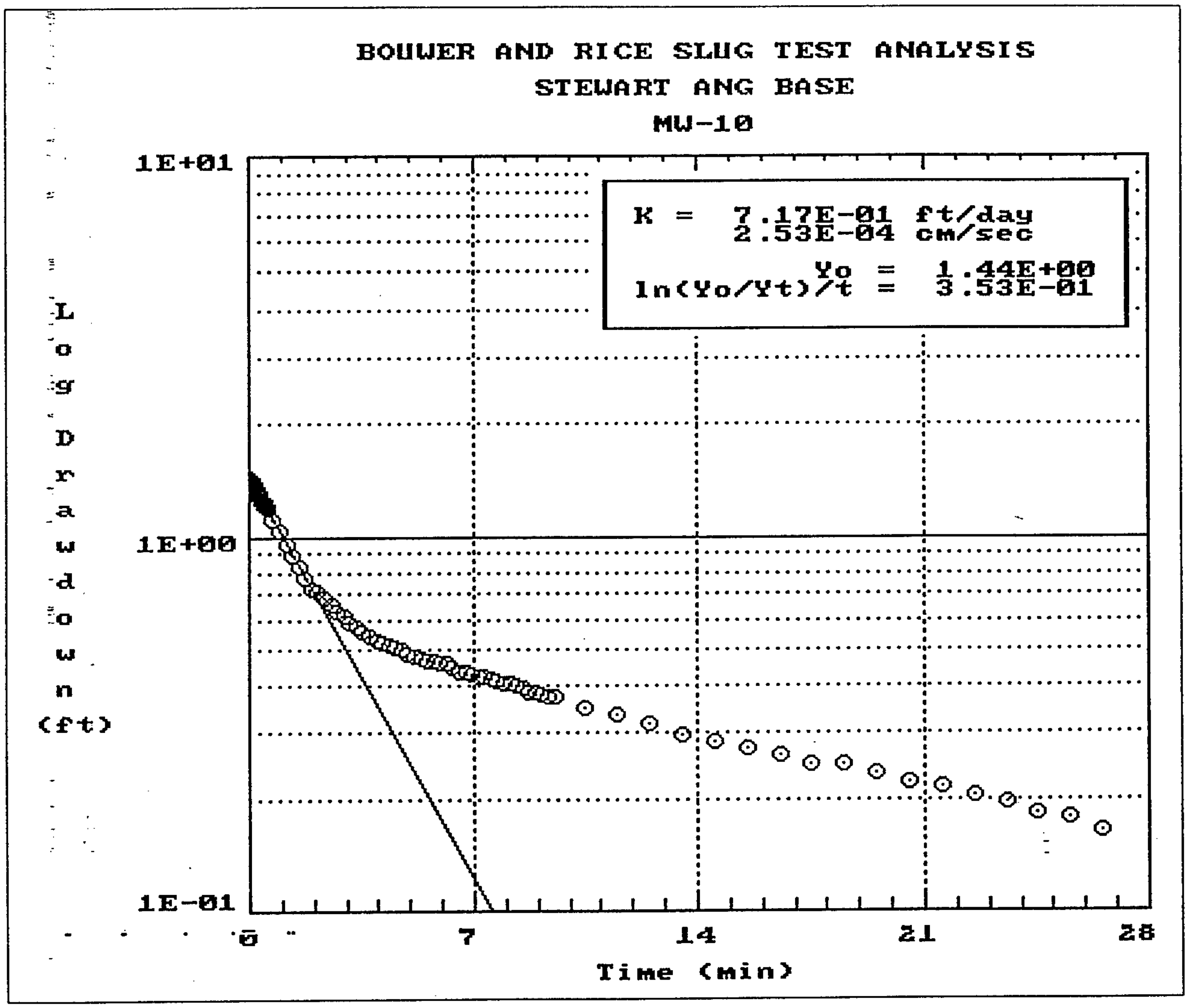
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.447	2	0.0167	1.441	3	0.0334	1.428
4	0.0500	1.422	5	0.0667	1.416	6	0.0834	1.403
7	0.1000	1.396	8	0.1167	1.390	9	0.1334	1.377
10	0.1500	1.371	11	0.1667	1.358	12	0.1834	1.358
13	0.2000	1.346	14	0.2167	1.339	15	0.2334	1.333
16	0.2500	1.327	17	0.2667	1.320	18	0.2834	1.308
19	0.3000	1.301	20	0.3167	1.288	21	0.3334	1.282
22	0.3500	1.276	23	0.3667	1.263	24	0.3834	1.257
25	0.4000	1.250	26	0.4167	1.244	27	0.4334	1.238
28	0.4500	1.231	29	0.4667	1.225	30	0.4834	1.212
31	0.5000	1.206	32	0.5167	1.200	33	0.5334	1.193
34	0.7334	1.104	35	0.9334	1.028	36	1.1334	0.958
37	1.3334	0.895	38	1.5334	0.831	39	1.7334	0.774
40	1.9334	0.723	41	2.1334	0.711	42	2.3334	0.685
43	2.5334	0.660	44	2.7334	0.634	45	2.9334	0.615
46	3.1334	0.590	47	3.3334	0.577	48	3.5334	0.558

STEWART ANG BASE
MW-10
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	3.7334	0.539	50	3.9334	0.526	51	4.1334	0.520
52	4.3334	0.514	53	4.5334	0.507	54	4.7334	0.501
55	4.9334	0.488	56	5.1334	0.482	57	5.3334	0.476
58	5.5334	0.469	59	5.7334	0.469	60	5.9334	0.463
61	6.1334	0.457	62	6.3334	0.450	63	6.5334	0.438
64	6.7334	0.438	65	6.9334	0.431	66	7.1334	0.425
67	7.3334	0.425	68	7.5334	0.419	69	7.7334	0.412
70	7.9334	0.406	71	8.1334	0.406	72	8.3334	0.399
73	8.5334	0.393	74	8.7334	0.387	75	8.9334	0.387
76	9.1334	0.380	77	9.3334	0.374	78	9.5334	0.374
79	10.5334	0.349	80	11.5334	0.336	81	12.5334	0.317
82	13.5334	0.298	83	14.5334	0.285	84	15.5334	0.273
85	16.5334	0.260	86	17.5334	0.247	87	18.5334	0.247
88	19.5334	0.234	89	20.5334	0.222	90	21.5334	0.215
91	22.5334	0.203	92	23.5334	0.196	93	24.5334	0.184
94	25.5334	0.177	95	26.5334	0.165	96	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-06-1996

STEWART ANG BASE
MW-10
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-10 DUPLICATE
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	2.23E-01	ft/day
	7.88E-05	cm/sec
Y-Intercept (Yo):	1.69E+00	ft
Well Screen Ratio (Le/rw):	14.6	
Dimensionless Parameter A:	1.99	
Dimensionless Parameter B:	0.30	
Slope of Line [ln(Yo/Yt)/t]:	1.098E-01	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.026	
Effective Radius [Re]:	2.61	ft
Volume Tested [rw<Vol<Re]:	1.05E+02	ft^3

Well/Aquifer Parameters

Depth of well:	9.75	ft
Length of well screen:	5.00	ft
Saturated thickness:	11.05	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.687	ft

Time vs Drawdown Data

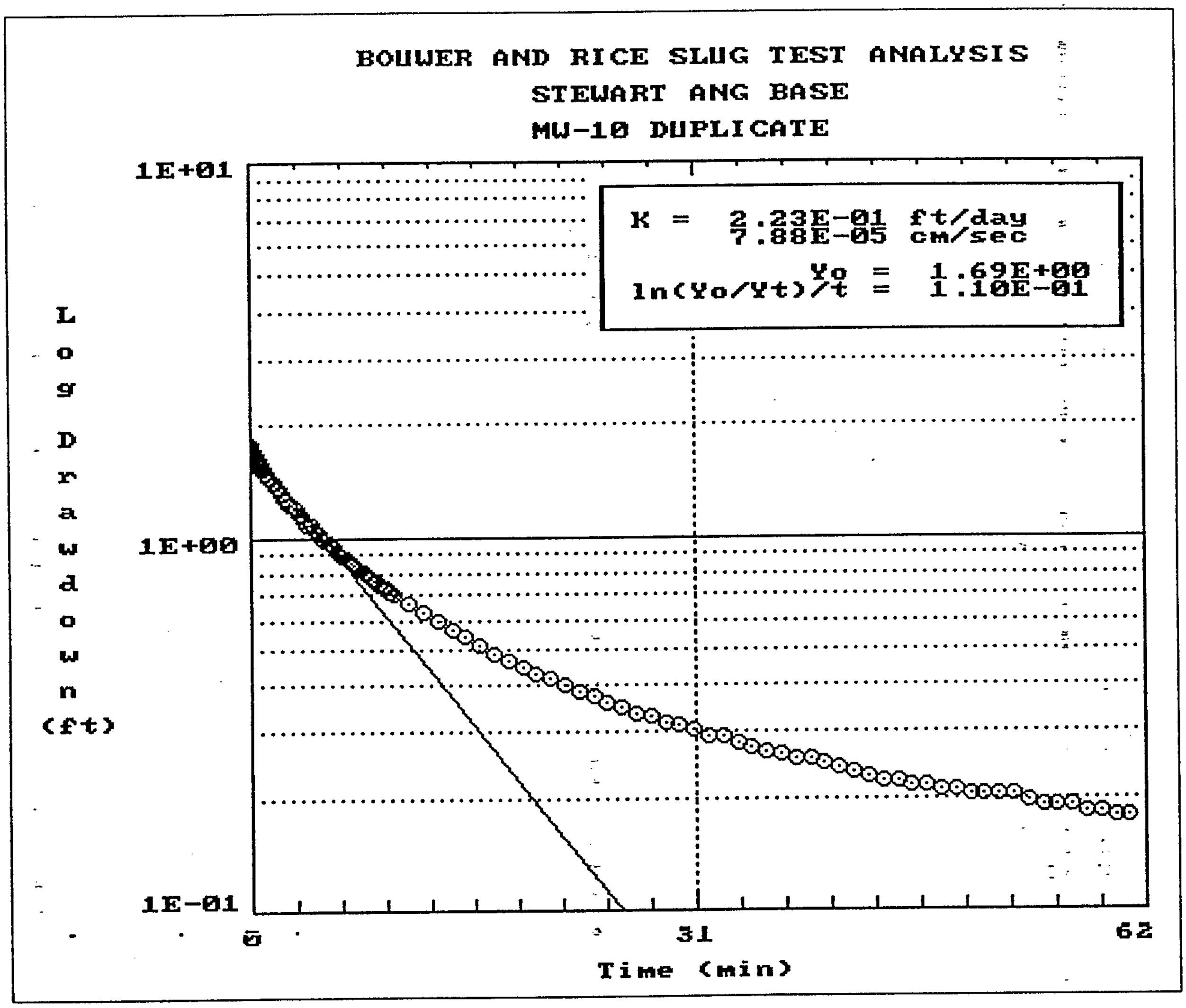
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.759	2	0.0083	1.733	3	0.0167	1.740
4	0.0250	1.727	5	0.0333	1.727	6	0.0417	1.720
7	0.0500	1.714	8	0.0583	1.714	9	0.0667	1.708
10	0.0750	1.708	11	0.0833	1.701	12	0.0917	1.701
13	0.1000	1.695	14	0.1083	1.695	15	0.1167	1.689
16	0.1250	1.689	17	0.1333	1.682	18	0.1417	1.682
19	0.1500	1.682	20	0.1583	1.682	21	0.1667	1.676
22	0.1750	1.670	23	0.1833	1.670	24	0.1917	1.670
25	0.2000	1.663	26	0.2167	1.663	27	0.2333	1.657
28	0.2500	1.651	29	0.2667	1.644	30	0.2833	1.644
31	0.3000	1.638	32	0.3167	1.632	33	0.3333	1.632
34	0.3500	1.625	35	0.3667	1.619	36	0.3833	1.619
37	0.4000	1.612	38	0.4167	1.606	39	0.4333	1.606
40	0.4500	1.600	41	0.4667	1.600	42	0.4833	1.593
43	0.5000	1.587	44	0.5167	1.587	45	0.5333	1.581
46	0.5500	1.581	47	0.5667	1.574	48	0.5833	1.568
49	0.6000	1.568	50	0.6167	1.562	51	0.6333	1.562

STEWART ANG BASE
MW-10 DUPLICATE
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.6500	1.555	53	0.6667	1.555	54	0.6833	1.549
55	0.7000	1.543	56	0.7167	1.543	57	0.7333	1.536
58	0.7500	1.530	59	0.7667	1.530	60	0.7833	1.530
61	0.8000	1.524	62	0.8167	1.524	63	0.8333	1.517
64	0.8500	1.517	65	0.8667	1.511	66	1.0667	1.473
67	1.2667	1.435	68	1.4667	1.403	69	1.6667	1.371
70	1.8667	1.339	71	2.0667	1.308	72	2.2667	1.276
73	2.4667	1.250	74	2.6667	1.225	75	2.8667	1.200
76	3.0667	1.181	77	3.2667	1.155	78	3.4667	1.136
79	3.6667	1.111	80	3.8667	1.085	81	4.0667	1.073
82	4.2667	1.047	83	4.4667	1.035	84	4.6667	1.015
85	4.8667	0.996	86	5.0667	0.984	87	5.2667	0.965
88	5.4667	0.952	89	5.6667	0.939	90	5.8667	0.920
91	6.0667	0.908	92	6.2667	0.895	93	6.4667	0.882
94	6.6667	0.869	95	6.8667	0.857	96	7.0667	0.844
97	7.2667	0.831	98	7.4667	0.819	99	7.6667	0.806
100	7.8667	0.800	101	8.0667	0.787	102	8.2667	0.774
103	8.4667	0.768	104	8.6667	0.761	105	8.8667	0.749
106	9.0667	0.736	107	9.2667	0.730	108	9.4667	0.717
109	9.6667	0.711	110	9.8667	0.704	111	10.8667	0.666
112	11.8667	0.628	113	12.8667	0.596	114	13.8667	0.565
115	14.8667	0.539	116	15.8667	0.514	117	16.8667	0.488
118	17.8667	0.469	119	18.8667	0.450	120	19.8667	0.431
121	20.8667	0.419	122	21.8667	0.400	123	22.8667	0.387
124	23.8667	0.374	125	24.8667	0.361	126	25.8667	0.349
127	26.8667	0.336	128	27.8667	0.330	129	28.8667	0.317
130	29.8667	0.311	131	30.8667	0.304	132	31.8667	0.292
133	32.8667	0.292	134	33.8667	0.279	135	34.8667	0.273
136	35.8667	0.266	137	36.8667	0.260	138	37.8667	0.253
139	38.8667	0.253	140	39.8667	0.247	141	40.8667	0.241
142	41.8667	0.234	143	42.8667	0.228	144	43.8667	0.222
145	44.8667	0.222	146	45.8667	0.215	147	46.8667	0.215
148	47.8667	0.209	149	48.8667	0.209	150	49.8667	0.203
151	50.8667	0.203	152	51.8667	0.203	153	52.8667	0.203
154	53.8667	0.196	155	54.8667	0.190	156	55.8667	0.190
157	56.8667	0.190	158	57.8667	0.184	159	58.8667	0.184
160	59.8667	0.177	161	60.8667	0.177	162	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-06-1996

STEWART ANG BASE
MW-10 DUPLICATE
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-11
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	6.23E-02	ft/day
	2.20E-05	cm/sec
Y-Intercept (Yo):	2.08E+00	ft
Well Screen Ratio (Le/rw):	30.3	
Dimensionless Parameter A:	2.51	
Dimensionless Parameter B:	0.37	
Slope of Line [ln(Yo/Yt)/t]:	2.341E-02	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	2.652	
Effective Radius [Re]:	2.34	ft
Volume Tested [rw<Vol<Re]:	8.56E+01	ft^3

Well/Aquifer Parameters

Depth of well:	14.20	ft
Length of well screen:	5.00	ft
Saturated thickness:	22.00	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.330	ft

Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	2.148	2	0.0083	2.142	3	0.0167	2.123
4	0.0250	2.104	5	0.0333	2.091	6	0.0417	2.085
7	0.0500	2.078	8	0.0583	2.072	9	0.0667	2.078
10	0.0750	2.078	11	0.0833	2.078	12	0.0917	2.078
13	0.1000	2.072	14	0.1083	2.072	15	0.1167	2.072
16	0.1250	2.072	17	0.1333	2.072	18	0.1417	2.072
19	0.1500	2.065	20	0.1583	2.065	21	0.1667	2.065
22	0.1750	2.065	23	0.1833	2.065	24	0.1917	2.065
25	0.2000	2.065	26	0.2083	2.065	27	0.2167	2.065
28	0.2250	2.065	29	0.2417	2.059	30	0.2583	2.059
31	0.2750	2.059	32	0.2917	2.059	33	0.3083	2.059
34	0.3250	2.059	35	0.3417	2.059	36	0.3583	2.046
37	0.3750	2.053	38	0.3917	2.053	39	0.4083	2.053
40	0.4250	2.053	41	0.4417	2.053	42	0.4583	2.053
43	0.4750	2.046	44	0.4917	2.046	45	0.5083	2.046
46	0.5250	2.046	47	0.5417	2.046	48	0.5583	2.027
49	0.5750	2.040	50	0.5917	2.046	51	0.6083	2.046

STEWART ANG BASE
MW-11
Kim Kutawski, Aneptek Corp.

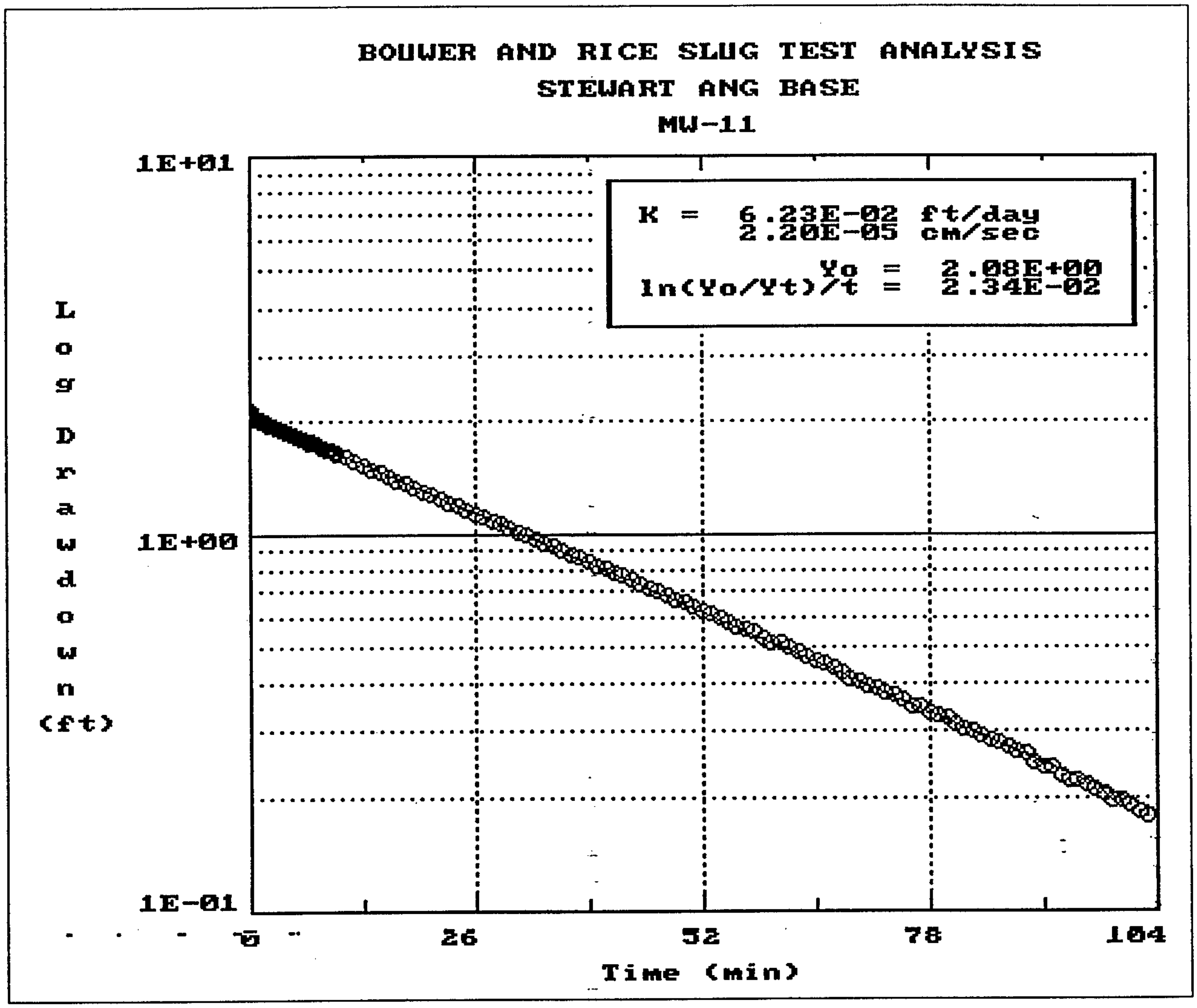
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.6250	2.040	53	0.6417	2.040	54	0.6583	2.040
55	0.6750	2.040	56	0.6917	2.040	57	0.7083	2.040
58	0.7250	2.034	59	0.7417	2.034	60	0.7583	2.034
61	0.7750	2.034	62	0.7917	2.034	63	0.8083	2.034
64	0.8250	2.034	65	0.8417	2.034	66	0.8583	2.027
67	0.8750	2.027	68	0.8917	2.027	69	1.0917	2.021
70	1.2917	2.008	71	1.4917	1.995	72	1.6917	1.989
73	1.8917	1.976	74	2.0917	1.951	75	2.2917	1.957
76	2.4917	1.951	77	2.6917	1.938	78	2.8917	1.925
79	3.0917	1.919	80	3.2917	1.912	81	3.4917	1.893
82	3.6917	1.893	83	3.8917	1.887	84	4.0917	1.874
85	4.2917	1.868	86	4.4917	1.855	87	4.6917	1.849
88	4.8917	1.842	89	5.0917	1.830	90	5.2917	1.823
91	5.4917	1.817	92	5.6917	1.804	93	5.8917	1.798
94	6.0917	1.785	95	6.2917	1.778	96	6.4917	1.772
97	6.6917	1.753	98	6.8917	1.759	99	7.0917	1.747
100	7.2917	1.740	101	7.4917	1.734	102	7.6917	1.721
103	7.8917	1.715	104	8.0917	1.708	105	8.2917	1.702
106	8.4917	1.696	107	8.6917	1.683	108	8.8917	1.676
109	9.0917	1.664	110	9.2917	1.683	111	9.4917	1.651
112	9.6917	1.645	113	9.8917	1.638	114	10.8917	1.600
115	11.8917	1.562	116	12.8917	1.523	117	13.8917	1.485
118	14.8917	1.453	119	15.8917	1.421	120	16.8917	1.389
121	17.8917	1.358	122	18.8917	1.326	123	19.8917	1.294
124	20.8917	1.268	125	21.8917	1.236	126	22.8917	1.211
127	23.8917	1.185	128	24.8917	1.160	129	25.8917	1.128
130	26.8917	1.103	131	27.8917	1.077	132	28.8917	1.058
133	29.8917	1.032	134	30.8917	1.007	135	31.8917	0.988
136	32.8917	0.962	137	33.8917	0.943	138	34.8917	0.924
139	35.8917	0.905	140	36.8917	0.879	141	37.8917	0.860
142	38.8917	0.841	143	39.8917	0.822	144	40.8917	0.803
145	41.8917	0.784	146	42.8917	0.771	147	43.8917	0.752
148	44.8917	0.733	149	45.8917	0.714	150	46.8917	0.701
151	47.8917	0.688	152	48.8917	0.669	153	49.8917	0.656
154	50.8917	0.643	155	51.8917	0.624	156	52.8917	0.612
157	53.8917	0.599	158	54.8917	0.580	159	55.8917	0.567
160	56.8917	0.561	161	57.8917	0.548	162	58.8917	0.529
163	59.8917	0.516	164	60.8917	0.510	165	61.8917	0.497
166	62.8917	0.484	167	63.8917	0.471	168	64.8917	0.459
169	65.8917	0.452	170	66.8917	0.439	171	67.8917	0.427
172	68.8917	0.414	173	69.8917	0.408	174	70.8917	0.395
175	71.8917	0.388	176	72.8917	0.382	177	73.8917	0.376
178	74.8917	0.363	179	75.8917	0.350	180	76.8917	0.350

STEWART ANG BASE
MW-11
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
181	77.8917	0.337	182	78.8917	0.331	183	79.8917	0.325
184	80.8917	0.312	185	81.8917	0.306	186	82.8917	0.299
187	83.8917	0.293	188	84.8917	0.286	189	85.8917	0.280
190	86.8917	0.274	191	87.8917	0.267	192	88.8917	0.261
193	89.8917	0.248	194	90.8917	0.242	195	91.8917	0.242
196	92.8917	0.229	197	93.8917	0.223	198	94.8917	0.223
199	95.8917	0.216	200	96.8917	0.210	201	97.8917	0.204
202	98.8917	0.197	203	99.8917	0.197	204	100.8917	0.191
205	101.8917	0.184	206	102.8917	0.178	207	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-11
Kim Kutawski, Aneptek Corp.



BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-06-1996

STEWART ANG BASE
MW-12
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	6.45E-02	ft/day
	2.27E-05	cm/sec
Y-Intercept (Yo):	1.86E+00	ft
Well Screen Ratio (Le/rw):	14.6	
Dimensionless Parameter A:	1.99	
Dimensionless Parameter B:	0.30	
Slope of Line [ln(Yo/Yt)/t]:	3.676E-02	1/min
Well Parameters (Rc^2 / 2*Le):	6.972E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	1.747	
Effective Radius [Re]:	1.97	ft
Volume Tested [rw<Vol<Re]:	5.92E+01	ft^3

Well/Aquifer Parameters

Depth of well:	6.73	ft
Length of well screen:	5.00	ft
Saturated thickness:	14.73	ft
Diameter of the well casing:	0.167	ft
Diameter of the well filter:	0.687	ft

Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.987	2	0.0083	1.994	3	0.0167	1.987
4	0.0250	1.981	5	0.0333	1.981	6	0.0417	1.975
7	0.0500	1.968	8	0.0583	1.962	9	0.0667	1.962
10	0.0750	1.962	11	0.0833	1.956	12	0.0917	1.956
13	0.1000	1.949	14	0.1083	1.943	15	0.1167	1.943
16	0.1250	1.943	17	0.1333	1.943	18	0.1417	1.937
19	0.1500	1.937	20	0.1583	1.937	21	0.1667	1.930
22	0.1750	1.930	23	0.1833	1.930	24	0.1917	1.924
25	0.2000	1.924	26	0.2083	1.917	27	0.2167	1.917
28	0.2250	1.917	29	0.2417	1.911	30	0.2583	1.911
31	0.2750	1.905	32	0.2917	1.905	33	0.3083	1.898
34	0.3250	1.898	35	0.3417	1.892	36	0.3583	1.892
37	0.3750	1.892	38	0.3917	1.886	39	0.4083	1.886
40	0.4250	1.879	41	0.4417	1.879	42	0.4583	1.873
43	0.4750	1.873	44	0.4917	1.867	45	0.5083	1.867
46	0.5250	1.860	47	0.5417	1.860	48	0.5583	1.860
49	0.5750	1.854	50	0.5917	1.854	51	0.6083	1.848

STEWART ANG BASE
MW-12
Kim Kutawski, Aneptek Corp.

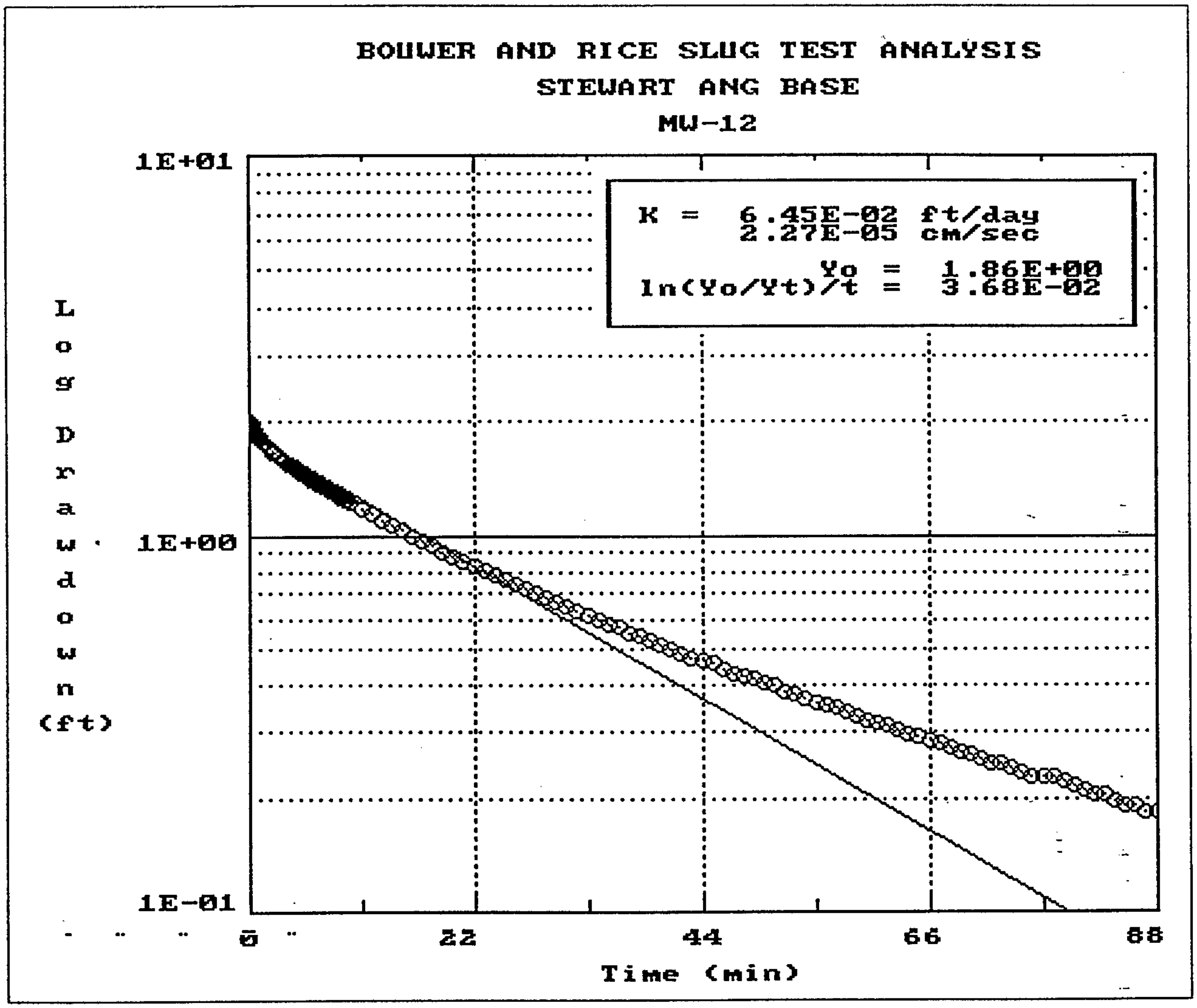
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
52	0.6250	1.848	53	0.6417	1.841	54	0.6583	1.841
55	0.6750	1.841	56	0.6917	1.841	57	0.7083	1.835
58	0.7250	1.835	59	0.7417	1.829	60	0.7583	1.829
61	0.7750	1.829	62	0.7917	1.822	63	0.8083	1.822
64	0.8250	1.816	65	0.8417	1.816	66	0.8583	1.816
67	0.8750	1.809	68	0.8917	1.809	69	1.0917	1.784
70	1.2917	1.759	71	1.4917	1.740	72	1.6917	1.721
73	1.8917	1.695	74	2.0917	1.676	75	2.2917	1.663
76	2.4917	1.644	77	2.6917	1.625	78	2.8917	1.606
79	3.0917	1.594	80	3.2917	1.581	81	3.4917	1.568
82	3.6917	1.549	83	3.8917	1.536	84	4.0917	1.524
85	4.2917	1.511	86	4.4917	1.492	87	4.6917	1.479
88	4.8917	1.466	89	5.0917	1.460	90	5.2917	1.447
91	5.4917	1.435	92	5.6917	1.422	93	5.8917	1.409
94	6.0917	1.397	95	6.2917	1.390	96	6.4917	1.378
97	6.6917	1.371	98	6.8917	1.358	99	7.0917	1.346
100	7.2917	1.339	101	7.4917	1.327	102	7.6917	1.320
103	7.8917	1.308	104	8.0917	1.301	105	8.2917	1.289
106	8.4917	1.282	107	8.6917	1.270	108	8.8917	1.263
109	9.0917	1.257	110	9.2917	1.244	111	9.4917	1.231
112	9.6917	1.225	113	9.8917	1.219	114	10.8917	1.174
115	11.8917	1.136	116	12.8917	1.098	117	13.8917	1.060
118	14.8917	1.028	119	15.8917	0.996	120	16.8917	0.971
121	17.8917	0.939	122	18.8917	0.908	123	19.8917	0.882
124	20.8917	0.857	125	21.8917	0.831	126	22.8917	0.806
127	23.8917	0.787	128	24.8917	0.761	129	25.8917	0.742
130	26.8917	0.723	131	27.8917	0.704	132	28.8917	0.685
133	29.8917	0.666	134	30.8917	0.647	135	31.8917	0.628
136	32.8917	0.615	137	33.8917	0.596	138	34.8917	0.584
139	35.8917	0.571	140	36.8917	0.552	141	37.8917	0.539
142	38.8917	0.527	143	39.8917	0.514	144	40.8917	0.501
145	41.8917	0.488	146	42.8917	0.476	147	43.8917	0.469
148	44.8917	0.457	149	45.8917	0.444	150	46.8917	0.431
151	47.8917	0.425	152	48.8917	0.419	153	49.8917	0.406
154	50.8917	0.400	155	51.8917	0.387	156	52.8917	0.380
157	53.8917	0.368	158	54.8917	0.361	159	55.8917	0.355
160	56.8917	0.349	161	57.8917	0.342	162	58.8917	0.330
163	59.8917	0.323	164	60.8917	0.317	165	61.8917	0.311
166	62.8917	0.304	167	63.8917	0.298	168	64.8917	0.292
169	65.8917	0.285	170	66.8917	0.279	171	67.8917	0.273
172	68.8917	0.266	173	69.8917	0.260	174	70.8917	0.253
175	71.8917	0.247	176	72.8917	0.247	177	73.8917	0.241
178	74.8917	0.234	179	75.8917	0.228	180	76.8917	0.228

STEWART ANG BASE
MW-12
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
181	77.8917	0.228	182	78.8917	0.222	183	79.8917	0.215
184	80.8917	0.209	185	81.8917	0.203	186	82.8917	0.203
187	83.8917	0.196	188	84.8917	0.190	189	85.8917	0.190
190	86.8917	0.184	191	87.8917	0.184	192	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-06-1996

STEWART ANG BASE
MW-12
Kim Kutawski, Aneptek Corp.



STEWART ANG BASE
MW-13
Kim Kutawski, Aneptek Corp.

Results

Hydraulic Conductivity:	3.88E-01	ft/day
	1.37E-04	cm/sec
Y-Intercept (Yo):	4.61E-01	ft
Well Screen Ratio (Le/rw):	29.1	
Dimensionless Parameter A:	2.48	
Dimensionless Parameter B:	0.37	
Slope of Line [ln(Yo/Yt)/t]:	6.640E-02	1/min
Well Parameters (Rc^2 / 2*Le):	2.011E-03	ft
Dimensionless Ratio [ln(Re/rw)]:	2.016	
Effective Radius [Re]:	2.58	ft
Volume Tested [rw<Vol<Re]:	2.05E+02	ft^3

Well/Aquifer Parameters

Depth of well:	7.34	ft
Length of well screen:	10.00	ft
Saturated thickness:	27.84	ft
Diameter of the well casing:	0.166	ft
Diameter of the well filter:	0.687	ft
Porosity of filter pack:	0.30	

Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0001	1.394	2	0.0084	1.368	3	0.0167	1.343
4	0.0250	1.330	5	0.0334	1.317	6	0.0417	1.304
7	0.0500	1.273	8	0.0584	1.254	9	0.0667	1.234
10	0.0750	1.222	11	0.0834	1.203	12	0.0917	1.190
13	0.1000	1.177	14	0.1084	1.158	15	0.1167	1.145
16	0.1250	1.133	17	0.1334	1.120	18	0.1417	1.107
19	0.1500	1.094	20	0.1584	1.075	21	0.1667	1.063
22	0.1750	1.050	23	0.1834	1.037	24	0.1917	1.024
25	0.2000	1.012	26	0.2084	0.999	27	0.2167	0.986
28	0.2250	0.974	29	0.2334	0.954	30	0.2417	0.948
31	0.2500	0.935	32	0.2584	0.923	33	0.2667	0.916
34	0.2750	0.903	35	0.2834	0.891	36	0.2917	0.884
37	0.3084	0.859	38	0.3250	0.840	39	0.3417	0.821
40	0.3584	0.802	41	0.3750	0.783	42	0.3917	0.763
43	0.4084	0.751	44	0.4250	0.738	45	0.4417	0.719
46	0.4584	0.706	47	0.4750	0.687	48	0.4917	0.681

STEWART ANG BASE
MW-13
Kim Kutawski, Aneptek Corp.

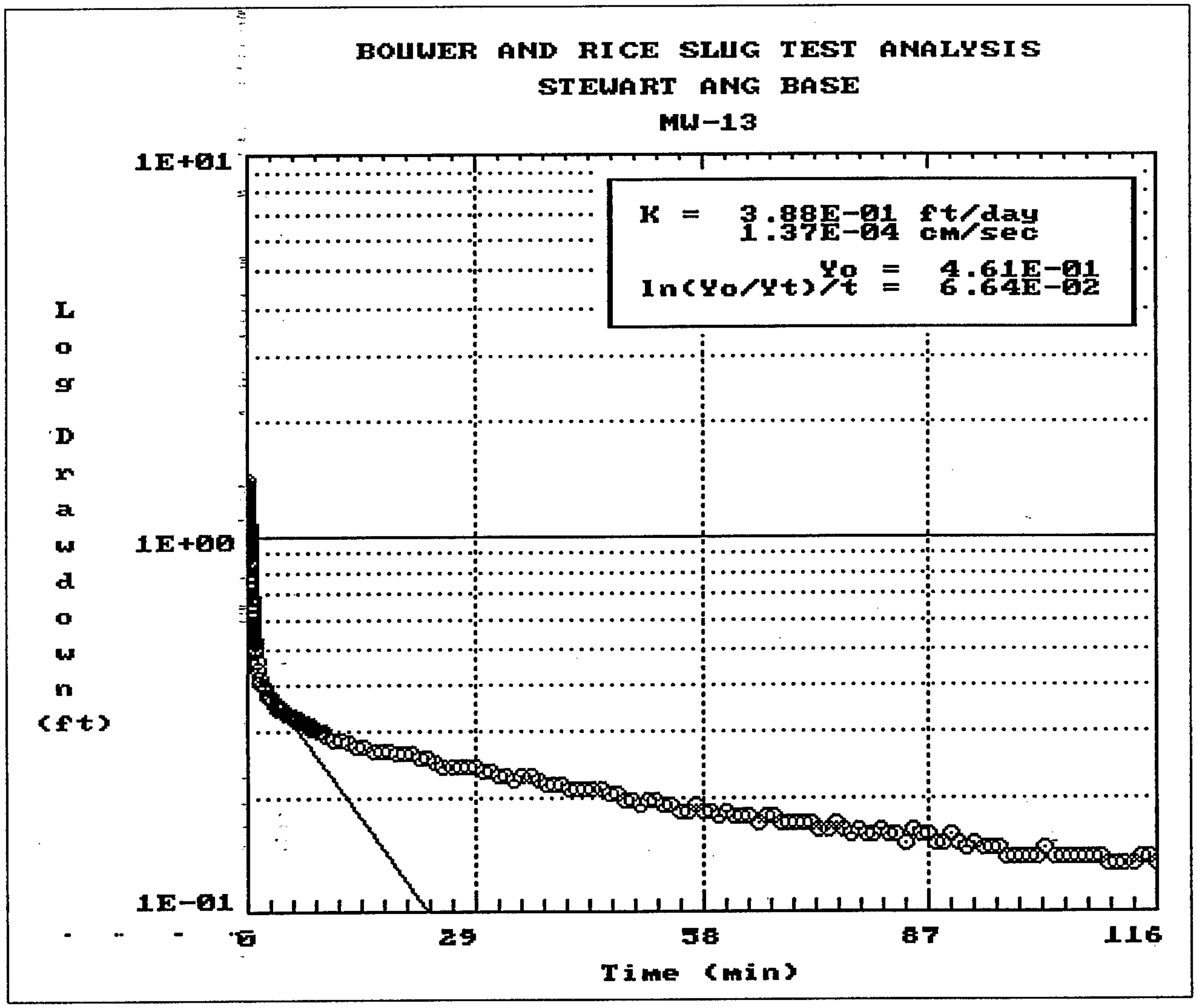
No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
49	0.5084	0.668	50	0.5250	0.655	51	0.5417	0.643
52	0.5584	0.630	53	0.5750	0.617	54	0.5917	0.611
55	0.6084	0.604	56	0.6250	0.592	57	0.6417	0.585
58	0.6584	0.579	59	0.6750	0.572	60	0.6917	0.566
61	0.7084	0.560	62	0.7250	0.553	63	0.7417	0.547
64	0.7584	0.541	65	0.7750	0.534	66	0.7917	0.528
67	0.8084	0.528	68	0.8250	0.522	69	0.8417	0.522
70	0.8584	0.522	71	0.8750	0.509	72	0.8917	0.509
73	0.9084	0.509	74	0.9250	0.502	75	0.9417	0.502
76	0.9584	0.496	77	1.1584	0.464	78	1.3584	0.439
79	1.5584	0.420	80	1.7584	0.407	81	1.9584	0.401
82	2.1584	0.394	83	2.3584	0.394	84	2.5584	0.375
85	2.7584	0.375	86	2.9584	0.369	87	3.1584	0.362
88	3.3584	0.362	89	3.5584	0.356	90	3.7584	0.350
91	3.9584	0.343	92	4.1584	0.350	93	4.3584	0.343
94	4.5584	0.343	95	4.7584	0.337	96	4.9584	0.337
97	5.1584	0.337	98	5.3584	0.331	99	5.5584	0.331
100	5.7584	0.331	101	5.9584	0.324	102	6.1584	0.324
103	6.3584	0.324	104	6.5584	0.318	105	6.7584	0.318
106	6.9584	0.318	107	7.1584	0.318	108	7.3584	0.318
109	7.5584	0.311	110	7.7584	0.311	111	7.9584	0.305
112	8.1584	0.311	113	8.3584	0.305	114	8.5584	0.305
115	8.7584	0.305	116	8.9584	0.299	117	9.1584	0.299
118	9.3584	0.299	119	9.5584	0.299	120	9.7584	0.299
121	9.9584	0.292	122	10.9584	0.286	123	11.9584	0.286
124	12.9584	0.280	125	13.9584	0.273	126	14.9584	0.273
127	15.9584	0.267	128	16.9584	0.267	129	17.9584	0.267
130	18.9584	0.261	131	19.9584	0.261	132	20.9584	0.261
133	21.9584	0.254	134	22.9584	0.254	135	23.9584	0.248
136	24.9584	0.241	137	25.9584	0.241	138	26.9584	0.241
139	27.9584	0.241	140	28.9584	0.241	141	29.9584	0.235
142	30.9584	0.235	143	31.9584	0.229	144	32.9584	0.229
145	33.9584	0.222	146	34.9584	0.229	147	35.9584	0.229
148	36.9584	0.222	149	37.9584	0.216	150	38.9584	0.216
151	39.9584	0.216	152	40.9584	0.210	153	41.9584	0.210
154	42.9584	0.210	155	43.9584	0.210	156	44.9584	0.210
157	45.9584	0.203	158	46.9584	0.203	159	47.9584	0.197
160	48.9584	0.197	161	49.9584	0.191	162	50.9584	0.197
163	51.9584	0.197	164	52.9584	0.191	165	53.9584	0.191
166	54.9584	0.184	167	55.9584	0.184	168	56.9584	0.191
169	57.9584	0.184	170	58.9584	0.184	171	59.9584	0.178
172	60.9584	0.184	173	61.9584	0.178	174	62.9584	0.178
175	63.9584	0.178	176	64.9584	0.171	177	65.9584	0.178

STEWART ANG BASE
MW-13
Kim Kutawski, Aneptek Corp.

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
178	66.9584	0.178	179	67.9584	0.171	180	68.9584	0.171
181	69.9584	0.171	182	70.9584	0.171	183	71.9584	0.171
184	72.9584	0.165	185	73.9584	0.165	186	74.9584	0.171
187	75.9584	0.165	188	76.9584	0.159	189	77.9584	0.165
190	78.9584	0.159	191	79.9584	0.159	192	80.9584	0.165
193	81.9584	0.159	194	82.9584	0.159	195	83.9584	0.152
196	84.9584	0.165	197	85.9584	0.159	198	86.9584	0.159
199	87.9584	0.152	200	88.9584	0.152	201	89.9584	0.159
202	90.9584	0.152	203	91.9584	0.146	204	92.9584	0.152
205	93.9584	0.146	206	94.9584	0.146	207	95.9584	0.146
208	96.9584	0.140	209	97.9584	0.140	210	98.9584	0.140
211	99.9584	0.140	212	100.9584	0.140	213	101.9584	0.146
214	102.9584	0.140	215	103.9584	0.140	216	104.9584	0.140
217	105.9584	0.140	218	106.9584	0.140	219	107.9584	0.140
220	108.9584	0.140	221	109.9584	0.133	222	110.9584	0.133
223	111.9584	0.133	224	112.9584	0.133	225	113.9584	0.140
226	114.9584	0.140	227	115.9584	0.133	228	0.0000	1.000

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 03-19-1996

STEWART ANG BASE
MW-13
Kim Kutawski, Aneptek Corp.



BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 04-05-1996

Stewart ANG PPBA RI
JMW-107 RE-ANALYSIS
AMK - Aneptek Corp

Results

Hydraulic Conductivity:	4.66E-01	ft/day
	1.64E-04	cm/sec
Y-Intercept (Yo):	2.77E+00	ft
Well Screen Ratio (Le/rw):	15.2	
Dimensionless Parameter C:	1.51	
Slope of Line [ln(Yo/Yt)/t]:	5.853E-02	1/min
Well Parameters (Rc^2 / 2*Le):	3.749E-03	ft
Dimensionless Ratio [ln(Re/rw)]:	1.475	
Effective Radius [Re]:	1.44	ft
Volume Tested [rw<Vol<Re]:	3.10E+01	ft^3

Well/Aquifer Parameters

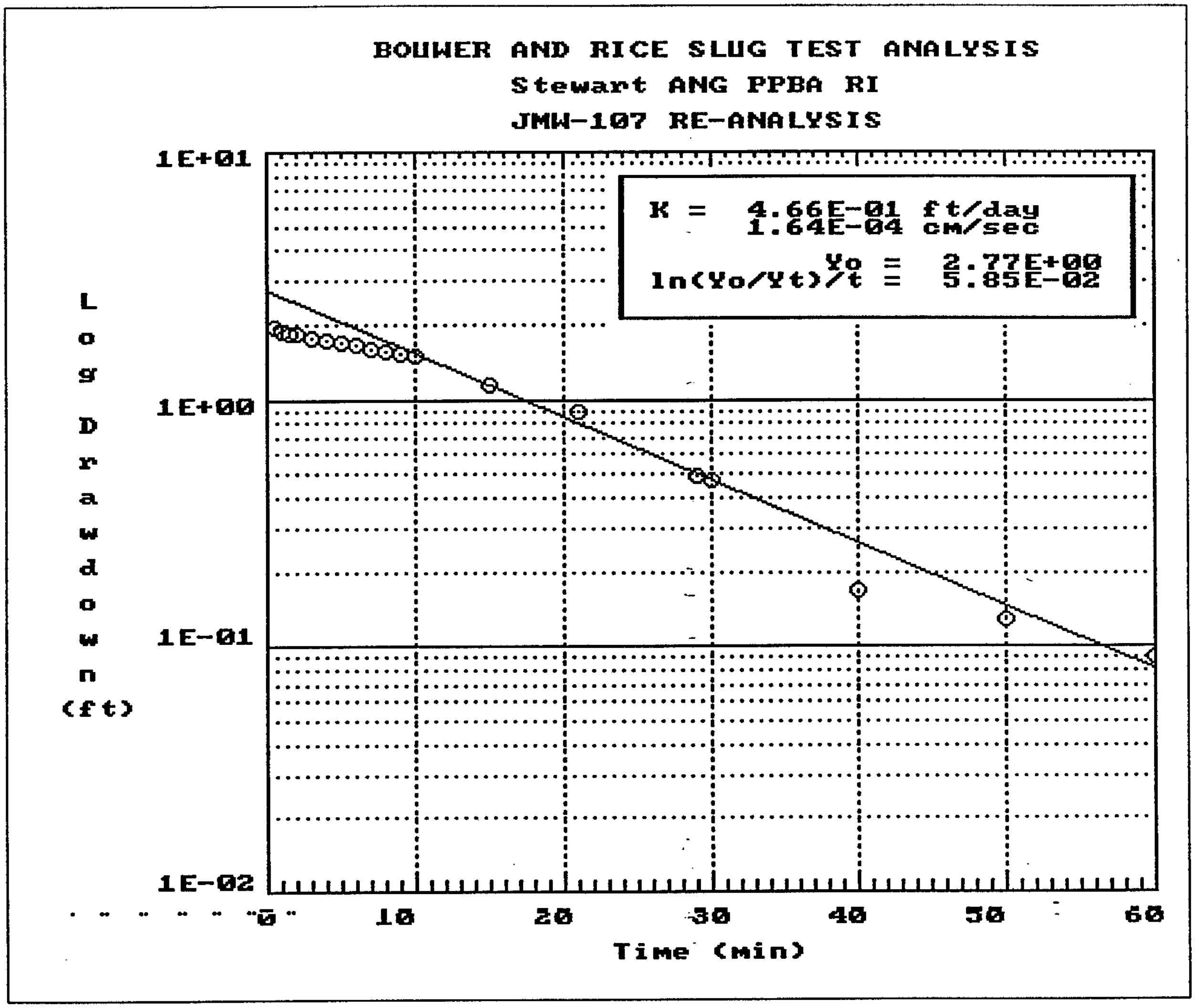
Depth of well:	2.21	ft
Length of well screen:	5.00	ft
Saturated thickness:	2.21	ft
Diameter of the well casing:	0.166	ft
Diameter of the well filter:	0.660	ft
Porosity of filter pack:	0.30	

Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.5000	1.980	2	1.0000	1.900	3	1.5000	1.860
4	2.0000	1.840	5	3.0000	1.780	6	4.0000	1.750
7	5.0000	1.690	8	6.0000	1.650	9	7.0000	1.610
10	8.0000	1.570	11	9.0000	1.530	12	10.0000	1.490
13	15.0000	1.140	14	21.0000	0.890	15	29.0000	0.490
16	30.0000	0.470	17	40.0000	0.170	18	50.0000	0.130
19	60.0000	0.090						

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 04-05-1996

Stewart ANG PPBA RI
JMW-107 RE-ANALYSIS
AMK - Aneptek Corp



Stewart ANG PPBA RI
JMW-108 RE-ANALYSIS
AMK - Aneptek Corp

Results

Hydraulic Conductivity:	1.16E-01	ft/day
	4.09E-05	cm/sec
Y-Intercept (Yo):	5.33E+00	ft
Well Screen Ratio (Le/rw):	15.2	
Dimensionless Parameter A:	2.01	
Dimensionless Parameter B:	0.31	
Slope of Line [ln(Yo/Yt)/t]:	6.620E-02	1/min
Well Parameters (Rc^2 / 2*Le):	6.889E-04	ft
Dimensionless Ratio [ln(Re/rw)]:	1.765	
Effective Radius [Re]:	1.93	ft
Volume Tested [rw<Vol<Re]:	5.67E+01	ft^3

Well/Aquifer Parameters

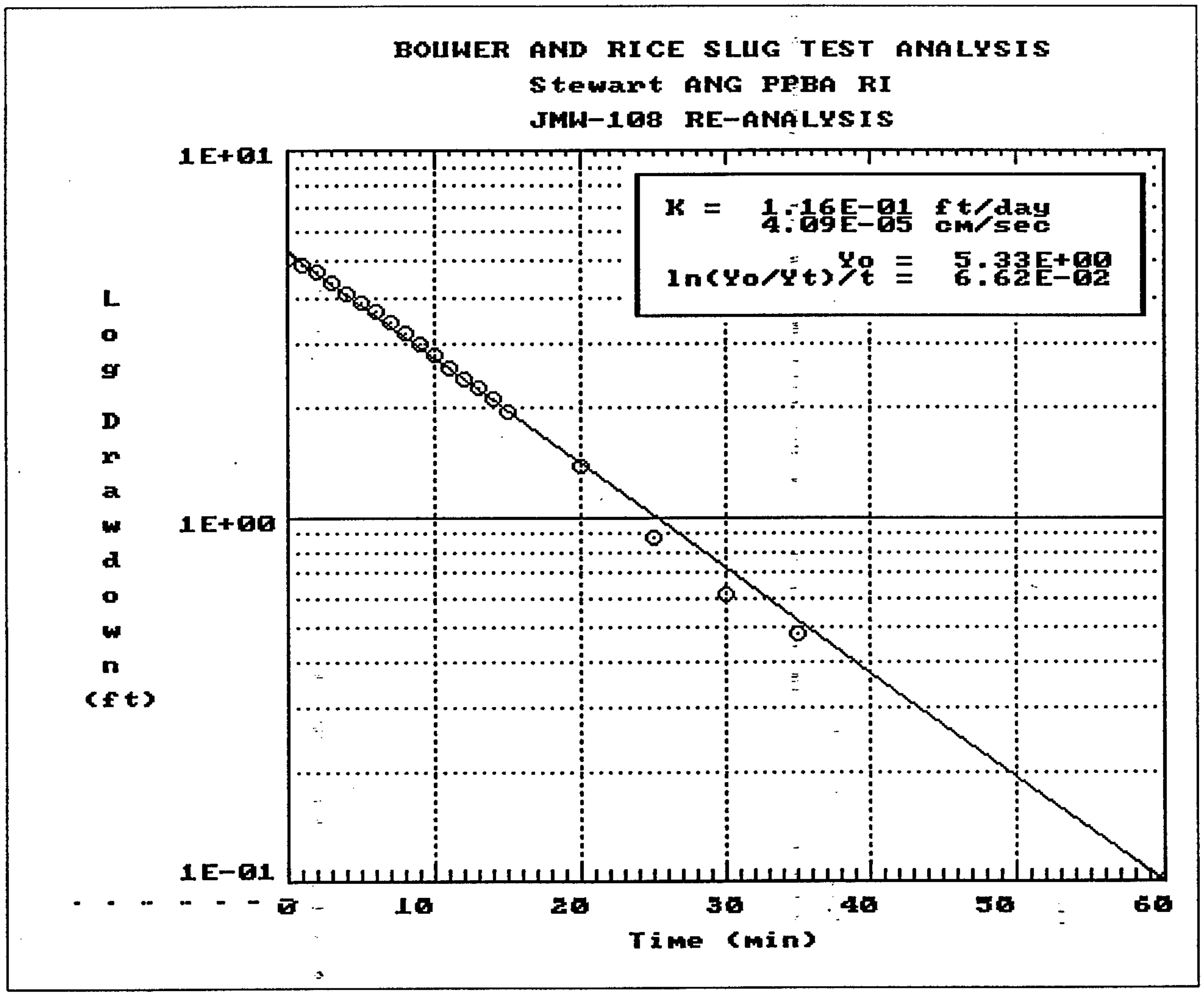
Depth of well:	5.19	ft
Length of well screen:	5.00	ft
Saturated thickness:	7.02	ft
Diameter of the well casing:	0.166	ft
Diameter of the well filter:	0.660	ft

Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0000	5.100	2	1.0000	4.880	3	2.0000	4.670
4	3.0000	4.410	5	4.0000	4.090	6	5.0000	3.880
7	6.0000	3.660	8	7.0000	3.420	9	8.0000	3.200
10	9.0000	2.970	11	10.0000	2.780	12	11.0000	2.580
13	12.0000	2.410	14	13.0000	2.260	15	14.0000	2.110
16	15.0000	1.950	17	20.0000	1.380	18	25.0000	0.880
19	30.0000	0.610	20	35.0000	0.480	21	60.0000	0.100

BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 04-05-1996

Stewart ANG PPBA RI
JMW-108 RE-ANALYSIS
AMK - Aneptek Corp



BOUWER AND RICE INTERACTIVE SLUG TEST ANALYSIS 04-05-1996

Stewart ANG PPBA RI
JMW-109 RE-ANALYSIS
AMK - Aneptek Corp

Results

Hydraulic Conductivity:	5.34E-01	ft/day
	1.88E-04	cm/sec
Y-Intercept (Yo):	1.91E+00	ft
Well Screen Ratio (Le/rw):	15.2	
Dimensionless Parameter A:	2.01	
Dimensionless Parameter B:	0.31	
Slope of Line [ln(Yo/Yt)/t]:	6.341E-02	1/min
Well Parameters (Rc^2 / 2*Le):	3.749E-03	ft
Dimensionless Ratio [ln(Re/rw)]:	1.561	
Effective Radius [Re]:	1.57	ft
Volume Tested [rw<Vol<Re]:	3.71E+01	ft^3

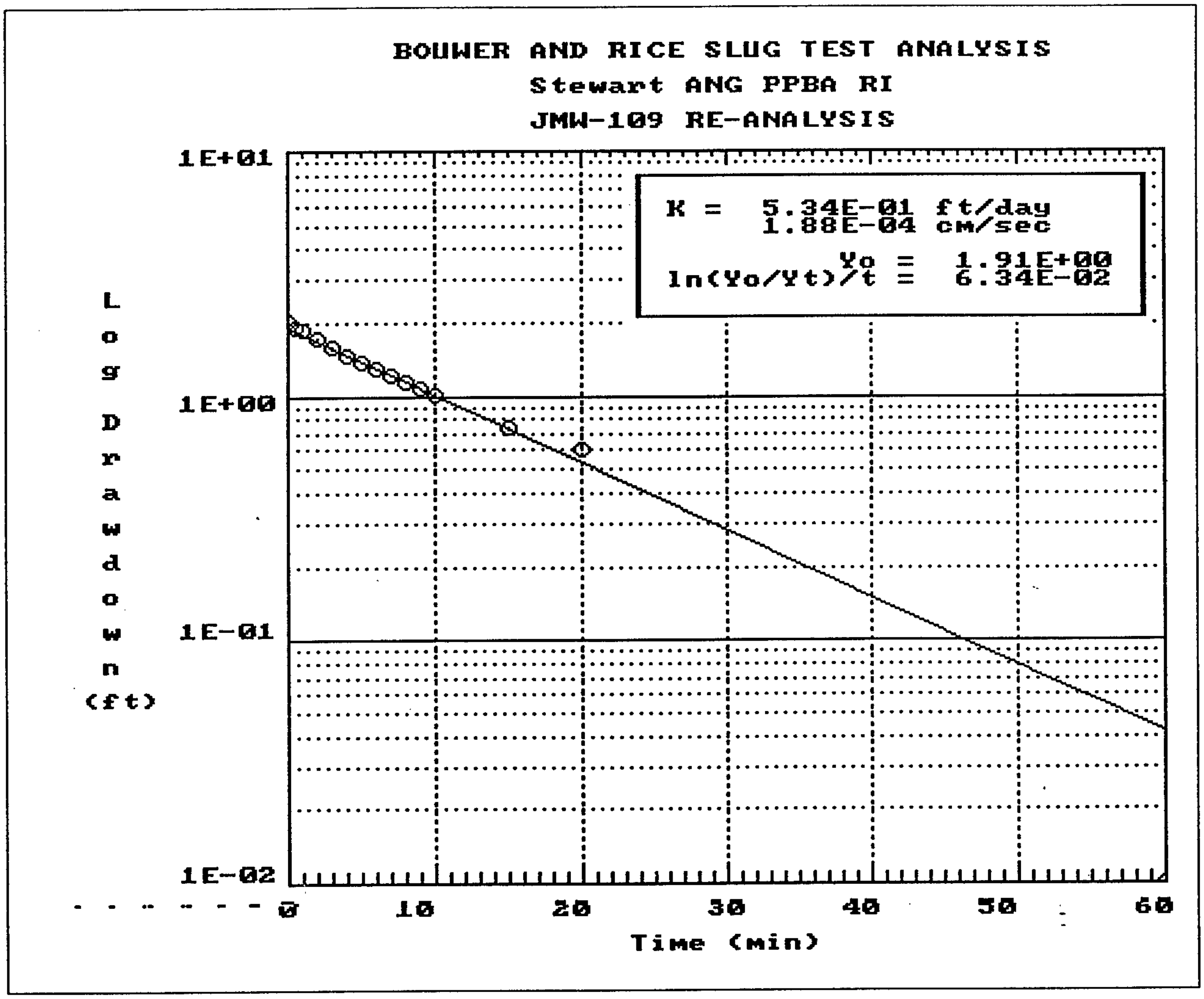
Well/Aquifer Parameters

Depth of well:	2.69	ft
Length of well screen:	5.00	ft
Saturated thickness:	2.84	ft
Diameter of the well casing:	0.166	ft
Diameter of the well filter:	0.660	ft
Porosity of filter pack:	0.30	

Time vs Drawdown Data

No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)	No.	Time (min)	Drawdown (ft)
1	0.0000	2.040	2	0.5000	1.930	3	1.0000	1.870
4	2.0000	1.730	5	3.0000	1.590	6	4.0000	1.480
7	5.0000	1.390	8	6.0000	1.300	9	7.0000	1.220
10	8.0000	1.150	11	9.0000	1.080	12	10.0000	1.010
13	15.0000	0.740	14	20.0000	0.610	15	60.0000	0.010

Stewart ANG PPBA RI
JMW-109 RE-ANALYSIS
AMK - Aneptek Corp



APPENDIX H

CHAIN OF CUSTODY FORMS

EnviroTest Laboratories Inc. CHAIN OF CUSTODY RECORD

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CUSTOMER NAME	Arcptek
ADDRESS	209 West Central Street
CITY, STATE, ZIP	Natick MA 01760
NAME OF CONTACT	Mike Plumb
PHONE NO.	(508) 650-1046
PROJECT LOCATION	Stuart Ave Site 1
PROJECT NUMBER / PO NO.	

REPORT TYPE

STANDARD ☐ ISRA ☐
NYASP A ☐ B ☒ CLP ☐
OTHER ____

TURNAROUND

☒ NORMAL
☐ QUICK
☐ VERBAL

LABORATORY # (Lab Use Only)

TEMP BLANK Y ___ N ___
pH CHECK Y ___ N ___
REVIEWED BY ___

NY PUBLIC WATER SUPPLIES

SOURCE ID ___
ELRP TYPE ___
FEDERAL ID ___

LAB USE ONLY

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2oz Coripak	ANALYSIS REQUESTED
	11/29/95	0810		X	WATER	MW-01-112995	6	3	1		1	1							[illegible] CYNIDE
	11/30/95	0645		X	WATER	MW-01-113095							2	1	1				TKN NH3 [illegible]
	11/30/95				WATER	TB-113095	2	2											8260 VOCs
	11/30/95	0830		X	WATER	MW-11-113095	10	3	1		1	1	2	1			1		8260 TKN [illegible] Bromide, SULFATE [illegible]
	11/30/95	1245		X	water	MW-05-113095	3	3											8260
	11/30/95	1255		X	water	MW-15-113095	3	3											8260
	11/30/95	1210		X	water	MW-08-113095	3	3											8260
	11/30/95	1230		X	water	MW-06-113095	3	3											8260
	11/30/95	1130		X	water	MW-07-113095 MS/MSD	9	9											8260

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	ETL	11/30/95	338	[signature]	Arcptek		
Michael Plumb	Arcptek	11/30/95	1512	[signature]	ETL	11/30/95	3:11

COMMENTS ____

NYSDOH 10142 NJDEP 73507 CTDOHS PH-0054 EPA NY049

EnviroTest Laboratories Inc. CHAIN OF CUSTODY RECORD

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CUSTOMER NAME: Avertek Corp.

ADDRESS: 209 West Central Street

CITY, STATE, ZIP: Natick MA 01760

NAME OF CONTACT: Mike Plush PHONE NO. (508) 650-1048

PROJECT LOCATION: Stewart Ave Site

PROJECT NUMBER / PO NO.

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☐ B ☑ CLP ☐
OTHER

TURNAROUND
☐ NORMAL
☑ QUICK
☐ VERBAL

LABORATORY # (Lab Use Only)
TEMP BLANK Y N
pH CHECK Y N
REVIEWED BY

NY PUBLIC WATER SUPPLIES
SOURCE ID
ELRP TYPE
FEDERAL ID

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCl	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Oorpak	ANALYSIS REQUESTED
LAB USE ONLY	11/30/95	1230		X	Water	MW-06-113095	7		1		1	1	2	1	1	[illegible]	[illegible]	-	TKN, NH3, NO3-NO2, COD, [illegible] Bromide, Sulfate, Metals, T-Hardness [illegible]
	11/30/95	1210		X	Water	MW-08-113095	7		1		1	1	2	1	1		[illegible]	[illegible]	"

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	ER	11/9/95	1252	[signature]	Avertek	[illegible]	[illegible]
[signature]	Avertek	11/30/95	1510	[signature]	ER	11/30/95	[illegible]

COMMENTS

EnviroTest Laboratories Inc.

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CHAIN OF CUSTODY RECORD

CUSTOMER NAME: Aneptek Corp.

ADDRESS: 209 West Central Street

CITY, STATE, ZIP: Natick MA 01760

NAME OF CONTACT: Mike Plumb PHONE NO. (508) 650-1048

PROJECT LOCATION: Stewart ANG Site 1

PROJECT NUMBER / PO NO.:

REPORT TYPE

STANDARD ☐ ISRA ☐

NYASP A ☐ B ☑ CLP ☑

OTHER ________

TURNAROUND

☐ NORMAL

☐ QUICK

☐ VERBAL

LABORATORY # (Lab Use Only)

TEMP BLANK Y ___ N ___

pH CHECK Y ___ N ___

REVIEWED BY ___

NY PUBLIC WATER SUPPLIES

SOURCE ID ___

ELRP TYPE ___

FEDERAL ID ___

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCl	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	Other	ANALYSIS REQUESTED
01	11/30/95	1245		x	Water	MW-05-113095	7		1		1	1	2	1	1				[illegible]
02	11/30/95	1255		x	Water	MW-15-113095	7		1		1	1	2	1	1				

LAB USE ONLY

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Michael Pilcd	ANEPTEK	11/30/95	1508	[illegible signature]	ETL	11/30/95	1508

COMMENTS ________

NYSDOH 10142 NJDEP 73507 CTDOHS PH-0054 EPA NY049

EnviroTest Laboratories Inc.

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CHAIN OF CUSTODY RECORD

CUSTOMER NAME	Anaptek
ADDRESS	209 West Central Street
CITY, STATE, ZIP	Natick MA 01760
NAME OF CONTACT / PHONE NO.	Mike Plumb (508) 650-1048
PROJECT LOCATION	Stewart ANG Site 1
PROJECT NUMBER / PO NO.	

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☒ B ☒ CLP ☒
OTHER ______

TURNAROUND
☐ NORMAL
☐ QUICK
☐ VERBAL

LABORATORY # (Lab Use Only)
TEMP BLANK Y N
pH CHECK Y N
REVIEWED BY

NY PUBLIC WATER SUPPLIES
SOURCE ID ______
ELRP TYPE ______
FEDERAL ID ______

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	32 oz Oorpak	ANALYSIS REQUESTED
	11/30/95	1130		X	Water	MW-07-113095	14		2		2	2	4	2	2		[illegible]	[illegible]	TKN, NH3, NO2-NO3, [illegible] Bromide, SULFATE, Metals, T. Hard, [illegible]
LAB USE ONLY																			

RELINQUISHED BY [signature]	COMPANY EIL	DATE 11/30/95	TIME 3?	RECEIVED BY Michael [illegible]	COMPANY [illegible]	DATE	TIME
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
RELINQUISHED BY Michael [illegible]	COMPANY Anaptek	DATE 11/30/95	TIME 1519	RECEIVED BY [signature]	COMPANY ETL	DATE 11/30/95	TIME 318

COMMENTS ______

EnviroTest Laboratories Inc. — CHAIN OF CUSTODY RECORD

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CUSTOMER NAME: Aneptek
ADDRESS: 209 W. CENTRAL ST
CITY, STATE, ZIP: NATICK MA 01760
NAME OF CONTACT: MIKE PLUMB PHONE NO. 508-650-1048
PROJECT LOCATION: STEWART
PROJECT NUMBER / PO NO.

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☐ B ☒ CLP ☐
OTHER ______

TURNAROUND
☐ NORMAL ______
☐ QUICK ______
☐ VERBAL ______

LABORATORY # (Lab Use Only)
TEMP BLANK Y ___ N ___
pH CHECK Y ___ N ___
REVIEWED BY ______

NY PUBLIC WATER SUPPLIES
SOURCE ID ______
ELRP TYPE ______
FEDERAL ID ______

ETL#	SAMPLING DATE	TIME AM/PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Oorpak	ANALYSIS REQUESTED
	11/29	0915		✓	AQUEOUS	MW-09-112995	10	3	1		1	1	2	1	1				BOD, TDS, ALK, CL, COLOR, BROMIDE, SULFATE, TKN, NH3, NO3, NO2, COD, TOC, METALS ANALYSIS - T. HARD, PHENOLS, HEXAVALENT CHROMIUM, CN, 8260
	11/29	0930		✓	AQUEOUS	MW-10-112995	10	3	1		1	1	2	1	1				SAME AS ABOVE
						TB-1129		1											8260

LAB USE ONLY

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	ETL	11/8/95	337				
					[signature]	ETL		

COMMENTS ______

EnviroTest Laboratories Inc.

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CHAIN OF CUSTODY RECORD

CUSTOMER NAME: Aneptek Corp.

ADDRESS: 209 West Central Street

CITY, STATE, ZIP: Natick, MA 01760

NAME OF CONTACT: Mike Plumb PHONE NO.: (508) 650-1048

PROJECT LOCATION: Stewart ANG Site 1

PROJECT NUMBER / PO NO.:

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☐ B ☑ CLP ☐
OTHER

TURNAROUND
☐ NORMAL
☐ QUICK
☐ VERBAL

LABORATORY # (Lab Use Only)
TEMP BLANK Y N
pH CHECK Y N
REVIEWED BY

NY PUBLIC WATER SUPPLIES
SOURCE ID
ELRP TYPE
FEDERAL ID

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Qorpak	ANALYSIS REQUESTED
01	11/30/95	0850		X	Water	MW-12-113095	4		1		1	1		1					TKN, NH3, NO3, NO2, COD, TOC, ~~BOD, TDS, Alk, Cl, Bromide, Sulfate, CN~~
02	12/1/95	0730		X	Water	MW-12-120195	3	~~1~~					2		1				BOD, TDS, Alk, Cl, Sulfate, Bromide, Hex Chrom.
03	12/1/95	0640		X	Water	MW-04-120195	7		1		1	1	2	1	1				TKN, NH3, NO3, NO2, COD, TOC, BOD, TDS, Alk, Cl, Bromide, Sulfate, CN, Hex Chrom

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Michael Blad	Aneptek	12/1/95	1101	[signature]	ETL	12/1/95	1658

COMMENTS

LAB USE ONLY

NYSDOH 10142 NJDEP 73507 CTDOHS PH-0054 EPA NY049

EnviroTest Laboratories Inc. CHAIN OF CUSTODY RECORD

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CUSTOMER NAME	Anepiok CoRP
ADDRESS	201 West Central STREET
CITY, STATE, ZIP	NATick MA 01760
NAME OF CONTACT	Mike PLUMB
PHONE NO.	(308) 650-1048
PROJECT LOCATION	STEWART AVE Site 1
PROJECT NUMBER / PO NO.	

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☐ B ☑ CLP ☐
OTHER ____

TURNAROUND
☑ NORMAL
☐ QUICK
☐ VERBAL

LABORATORY # (Lab Use Only)
TEMP BLANK Y ___ N ___ °C
pH CHECK Y ___ N ___
REVIEWED BY ___

NY PUBLIC WATER SUPPLIES
SOURCE ID ___
ELRP TYPE ___
FEDERAL ID ___

ETL#	SAMPLING DATE	SAMPLING TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	32 oz. Oorpak	ANALYSIS REQUESTED
07	12/01/95	0845		X	Water	SW-02-120195	10	3	1		1	1	2	1	1				[illegible]
m.f.																			
8	12/01/95	0640		X	WATER	MW-04-120195	3	3											8260
9	12/1/95	0900		X	water	SW-03-120195 (MS/MSD)	6	6											8260 (MS/MSD)
10	12/1/95	0810		X	Water	SW-11-120195	3	3											8260
11	12/1/95	0800		X	water	SW-01-120195	3	3											8260
12	11/30/95	0850		X	water	MW-12-113095	3	3											8260
13				X	water	TB-120195	2	2											8260

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Michael [illegible]	Anepiek	12/1/95	1605	[illegible]	[illegible]	12/1/95	1605

COMMENTS ____

NYSDOH 10142 NJDEP 73507 CTDOHS PH-0054 EPA NY049

EnviroTest Laboratories Inc. CHAIN OF CUSTODY RECORD

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CUSTOMER NAME: Ameptik Corp
ADDRESS: 209 West Central Street
CITY, STATE, ZIP: Natick MA 01760
NAME OF CONTACT: Mike Plumb PHONE NO. (508) 650-1048
PROJECT LOCATION: Stewart ANG Site 1
PROJECT NUMBER / PO NO.:

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☐ B ☑ CLP ☐
OTHER

TURNAROUND
☐ NORMAL
☐ QUICK
☐ VERBAL

LABORATORY # (Lab Use Only)
TEMP BLANK Y N
pH CHECK Y N
REVIEWED BY

NY PUBLIC WATER SUPPLIES
SOURCE ID
ELRP TYPE
FEDERAL ID

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz Corpak	ANALYSIS REQUESTED
05	12/1/95	0800		X	Water	SW-01-120195	7		1		1	1	2	1	1				[illegible]
06	12/1/95	0810		X	Water	SW-11-120195	7		1		1	1	2	1	1				"

LAB USE ONLY

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Michael [illegible]	Ameptik	12/1/95	11:04	[illegible]	ER	12/1/95	11:04

COMMENTS

EnviroTest Laboratories Inc.

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CHAIN OF CUSTODY RECORD

CUSTOMER NAME	Anettek Corp
ADDRESS	209 West Central Street
CITY, STATE, ZIP	Natick, MA 01760
NAME OF CONTACT	Mike Plunk
PHONE NO.	(508) 650-1048
PROJECT LOCATION	Stewart ANG Site 1
PROJECT NUMBER / PO NO.	

REPORT TYPE

STANDARD ☐ ISRA ☐
NYASP A ☐ B ☑ CLP ☐
OTHER ______

TURNAROUND

☑ NORMAL ______
☐ QUICK ______
☐ VERBAL ______

LABORATORY # (Lab Use Only)

TEMP BLANK Y ___ N ___ °C
pH CHECK Y ___ N ___
REVIEWED BY ______

NY PUBLIC WATER SUPPLIES

SOURCE ID ______
ELRP TYPE ______
FEDERAL ID ______

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Qorpak	ANALYSIS REQUESTED
04	12/1/95	0900		X	Water	SW-03-120195 (MS/MSD)	14		2		2	2	4	2	2				TKN, NH3, NO3-NO2, COD, TOC, BOD, TDS, Alk, Cl, Color, Bromide, Sulfate, CN, Hex Chrom, metals, T-Hardness (MS/MSD)

LAB USE ONLY

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Michael [signature]	Anattek	12/1/95	1103	[signature]	ETL	12/1/95	[illegible]

COMMENTS ______

EnviroTest Laboratories Inc.

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CHAIN OF CUSTODY RECORD

CUSTOMER NAME: ANEPTEK

ADDRESS: 209 W. CENTRAL

CITY, STATE, ZIP: NATICK MA 01760

NAME OF CONTACT: MIKE PLUMB PHONE NO. 508-650-1048

PROJECT LOCATION: STEWART ANG SITE 1

PROJECT NUMBER / PO NO.

REPORT TYPE

STANDARD ☐ ISRA ☐

NYASP A ☐ B ☐ CLP ☐

OTHER

TURNAROUND

☐ NORMAL

☐ QUICK

☐ VERBAL

LABORATORY # (Lab Use Only)

TEMP BLANK Y N

pH CHECK Y N

REVIEWED BY

NY PUBLIC WATER SUPPLIES

SOURCE ID

ELRP TYPE

FEDERAL ID

LAB USE ONLY

ETL#	SAMPLING DATE	TIME AM/PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Oorpak	ANALYSIS REQUESTED
01	7/29/96	1145		L	AQUA	FB-7-29-96 (POTABLE)		3											8260
				L					1										PHENOLS
				L							1								METALS ANALYSIS - T. HARD
				L								1							CYANIDE
				L									2						BOD, TDS, ALK, CL, COLOR, BROMIDE, SU
				L										1					TKN, NH3, NO3-NO2, COD, TOC
				L											1				HEXAVALENT CHROMIUM
02					AQUA	TB-7-29-96		1											8260 (TRIP BLANK)
																			ALL SAMPLES
																			ON ICE

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
[signature]	ETL	7/26/96					
[signature]	ANEPTEK	7/29/96					
				[signature]	ETL	7/29/96	1310

COMMENTS

EnviroTest Laboratories Inc. — CHAIN OF CUSTODY RECORD

315 Fullerton Avenue, Newburgh, NY 12550 (914) 562-0890 FAX (914) 562-0841

CUSTOMER NAME: Aveptek Corp.
ADDRESS: 209 West Central Street
CITY, STATE, ZIP: Natick, MA 01760
NAME OF CONTACT: Mike Plumb PHONE NO. (508) 650-1048
PROJECT LOCATION: Stewart ANG Base
PROJECT NUMBER / PO NO.: Site 1 94160.34

REPORT TYPE
STANDARD ☐ ISRA ☐
NYASP A ☐ B ☐ CLP ☐
OTHER ______

TURNAROUND
☑ NORMAL ______
☐ QUICK ______
☐ VERBAL ______

LABORATORY # (Lab Use Only)
TEMP BLANK Y __ N __
pH CHECK Y __ N __
REVIEWED BY ______

NY PUBLIC WATER SUPPLIES
SOURCE ID ______
ELRP TYPE ______
FEDERAL ID ______

ETL#	SAMPLING DATE	TIME AM PM	COMP	GRAB	MATRIX	CLIENT I.D.	Total Number of Containers	40ml Glass HCL	Liter Amber Sulfuric Acid	Liter Amber Organic Washed	Liter Plastic Nitric Acid	Liter Plastic Sodium Hydroxide	Liter Plastic	Liter Plastic Sulfuric Acid	250ml Plastic	125ml Plastic Sterile	250ml Amber	2 oz. Qorpak	ANALYSIS REQUESTED
	8/14/96	1100		x	Water	MW-14-081496 (MS/MSD)	26	6	3	~	3	3	5	3	3				8260, Phenols, Metals + T. Hardness, CN, BOD, TDS, ALK, Cl, Color, Bromide, SO4, [illegible] NH3, [illegible]
	8/14/96	1045		x	Water	MW-15-081496	10	3	1		1	1	2	1	1				COD, TOC, Hex Chrome
	8/14/96	1055		x	Water	MW-25-081496	10	3	1		1	1	2	1	1				"
						TB-08-14-96													Trip Blank 8260
																			All samples
																			on ice

LAB USE ONLY

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
Jeff Donahan	Aneptek	8/14/96	1510	[signature]	ETL	8/14/96	15:15

COMMENTS ______

APPENDIX I

LABORATORY DATA SUMMARY PACKAGES

EnviroTest Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550

SAMPLE DATA SUMMARY PACKAGE

Aneptek Corp.
Natick, MA

Project: Stewart Site 1
ETL Labs #: 155817/155893
Matrix: Water

1 of 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
155817-01	Water	11/29/95	11/29/95	----	12/6/95
155817-02	Water	11/29/95	11/29/95	----	12/6/95
155817-03	Water	11/29/95	11/29/95	----	12/6/95
155893-05	Water	11/29/95	11/30/95	----	12/6/95
155893-07	Water	11/30/95	11/30/95	----	12/7/95
155893-08	Water	11/30/95	11/30/95	----	12/6/95
155893-09	Water	11/30/95	11/30/95	----	12/6/95
155893-10	Water	11/30/95	11/30/95	----	12/6/95
155893-11	Water	11/30/95	11/30/95	----	12/6/95
155893-12	Water	11/30/95	11/30/95	----	12/6/95
155893-13	Water	11/30/95	11/30/95	----	12/7/95

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890
FAX (914) 562-0841

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155817-01	Water	TKN	11/29/95	11/27/95
		BOD		11/29/95
		Alk, Color, Cr+6		11/30/95
		NO3-NO2, TDS		12/1/95
		Br, Cl		12/4/95
		Hg		12/5/95
		COD, Pb, Se, Phenol		12/6/95
		NH3		12/7/95
		TOC		12/8/95
		As		12/13/95
		Tl		12/14/95
		Cn		12/15/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness		12/19/95
		SO4		12/21/95
155817-02	Water	TKN	11/29/95	11/27/95
		BOD		11/29/95
		Alk, Color, Cr+6		11/30/95
		NO3-NO2, TDS		12/1/95
		Br, Cl		12/4/95
		Hg		12/5/95
		COD, Pb, Se, Phenol		12/6/95
		NH3		12/7/95
		TOC		12/8/95
		As		12/13/95
		Tl		12/14/95
		Cn		12/15/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness		12/19/95
		SO4		12/21/95

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890
FAX (914) 562-0841

[illegible] NJDEP 73507 CTDOHS PH-0554 EPA NY049

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155893-01		BOD, Color, Cr+6, NO3-NO2	11/30/95	12/1/95
		Br, TKN		12/4/95
		ALK, TDS		12/5/95
		COD, Phenol		12/6/95
		NH3,		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		As, Pb		12/18/95
		Se		12/19/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness, Tl		12/20/95
		Cn		12/21/95
		Hg		12/22/95
		SO4		12/27/95
155893-02		BOD, Color, Cr+6, NO3-NO2	11/30/95	12/1/95
		Br, TKN		12/4/95
		ALK, TDS		12/5/95
		COD, Phenol		12/6/95
		NH3,		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		As, Pb		12/18/95
		Se		12/19/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness, Tl		12/20/95
		Cn		12/21/95
		Hg		12/22/95
		SO4		12/27/95

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890
FAX (914) 562-0841

CTDOHS PH-0554 EPA NY049

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES
page 3

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155893-03		BOD, Color, Cr+6, NO3-NO2	11/30/95	12/1/95
		Br, TKN		12/4/95
		ALK, TDS		12/5/95
		COD, Phenol		12/6/95
		NH3,		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		As, Pb		12/18/95
		Se		12/19/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness, Tl		12/20/95
		Cn		12/21/95
		Hg		12/22/95
		SO4		12/27/95
155893-04		BOD, Color, Cr+6, NO3-NO2	11/30/95	12/1/95
		Br, TKN		12/4/95
		ALK, TDS		12/5/95
		COD, Phenol		12/6/95
		NH3,		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		As, Pb		12/18/95
		Se		12/19/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness, Tl		12/20/95
		Cn		12/21/95
		Hg		12/22/95
		SO4		12/27/95

EnviroTest Laboratories Inc.
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES
page 4

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155893-05	Water	Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, Tl, Hardness, V, Zn	11/30/95	12/20/95
		As, Pb		12/18/95
		Se		12/19/95
		Cn		12/21/95
		Hg		12/22/95
		Phenol		12/6/95
155893-06	Water	Bod, Color, Cr+6, NO3-NO2		12/1/95
		Br		12/4/95
		ALK, TDS, TKN		12/5/95
		COD		12/6/95
		NH3		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		SO4		12/27/95
155893-08	Water	BOD, Color, Cr+6, NO3-NO2	11/30/95	12/1/95
		Br, TKN		12/4/95
		ALK, TDS		12/5/95
		COD, Phenol		12/6/95
		NH3,		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		As, Pb		12/18/95
		Se		12/19/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness, Tl		12/20/95
		Cn		12/21/95
		Hg		12/22/95
		SO4		12/27/95

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES
page 4

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155893-14	Water	BOD, Color, Cr+6, NO3-NO2	11/30/95	12/1/95
		Br, TKN		12/4/95
		ALK, TDS		12/5/95
		COD, Phenol		12/6/95
		NH3,		12/7/95
		TOC		12/8/95
		Cl		12/15/95
		As, Pb		12/18/95
		Se		12/19/95.
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, V, Zn, Hardness, Tl		12/20/95
		Cn		12/21/95
		Hg		12/22/95
		SO4		12/27/95

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CASE NARRATIVE
Client: Aneptek Corp.
Date: 1/18/96
ETL Lab No. 155817 and 155893

Volatiles

Calibration

Due to poor purging efficiency the calibration levels of acrylonitrile, iodomethane, carbon disulfide, vinyl acetate and t-1,4-dichloro-2-butene are 10, 20, 50, 100 and 200 ug/l.

Wet Chemistry

Phenols

Due to insufficient sample volume, the following samples were distilled for total phenol using 200ml instead of 500ml.

MW-09-112995D (155817-01D)
MW-09-112995S (155817-01S)
MW-05-113095D (155893-01D)
MW-05-113095S (155893-01S)

Cyanide

Due to insufficient sample volume, the following samples were distilled for total cyanide using 250ml instead of 500ml.

MW-09-112995D (155817-01D)
MW-09-112995S (155817-01S)
MW-05-113095D (155893-01D)
MW-05-113095S (155893-01S)

Total Kjeldahl Nitrogen

The matrix spike falls outside the EnviroTest established control limits of 85-120% for laboratory number 155817. The percent recovery was 165%.

Alkalinity

A matrix duplicate/matrix spike was not performed on a sample from laboratory number 155817. The matrix duplicate/matrix spike was performed on a sample that was analyzed at the same time as 155817. The associated matrix duplicate/matrix spike was within the EnviroTest established control limits.

The following samples were diluted for alkalinity at the indicated amount due to concentrations that exceed the calibration range:

MW-11-113095 (155893-08): 1.25x
MW-07-113095 (155893-14): 4x

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CASE NARRATIVE
Client: Aneptek Corp.
Date: 1/18/96
ETL Lab No. 155817 and 155893

Biochemical Oxygen Demand

A duplicate was not performed on a sample from laboratory number 155817. The duplicate was performed on a sample that was analyzed at the same time as laboratory number 155817.

Bromide

The matrix spike for bromide falls outside the EnviroTest established control limits of 72-125% for laboratory number. The percent recovery was 135%.

Chloride

The following samples were diluted for chloride at the indicated amount due to sample matrix:

MW-09-112995DL (155817-01DL): 5x
MW-10-112995DL (155817-02DL): 5x

Hexavalent Chromium

The water laboratory control sample (LCSW) for hexavalent chromium falls outside the EnviroTest established control limits of 89-100% for laboratory numbers 155817 and 155893. The percent recovery was 85% for both analytical runs.

Nitrate/Nitrite

The water laboratory control sample (LCSW) for nitrate/nitrite falls outside the EnviroTest established control limits of 75-110% for laboratory number 155817. The percent recovery was 111%.

The following sample was diluted for nitrate/nitrite at the indicated amount due to concentrations that exceed the calibration range:

MW-06-113095DL (155893-03DL): 4x

Sulfate

The following samples were diluted for sulfate at the indicated amount due to concentrations that exceed the calibration range:

MW-01-113095DL (155893-06DL): 2x

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Inorganics

Matrix Spike

The predigestion spike recovery for the following samples was outside the acceptable limits:

MW-09-112995S (155817-01S): silver and lead
MW-05-113095S (155893-01S): silver and zinc
The data is qualified accordingly.

Post Digestion Spike

A post digestion spike was performed for sample number MW-05-113095P (155893-01P) due to zinc recovery outside the acceptable limit in the predigestion spike.

Matrix Duplicate

The duplicate analysis for the following samples contains the indicated parameters that fall outside the acceptable limits:

MW-09-112995D (155817-01D): chromium and zinc
MW-05-113095D (155893-01D): zinc

The data is qualified accordingly.

Serial Dilution

The serial dilution results for the following samples contain the indicated parameters that exceed the acceptable 10% control limit:

MW-09-112995L (155817-01L): barium, zinc, potassium and iron
MW-05-113095L (155893-01L): sodium, zinc, magnesium, calcium and manganese

The data is qualified accordingly.

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-09-112995	Date Collected:	29-NOV-95
ETL Sample Number:	155817-01	Date Received:	29-NOV-95
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	STEWART	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4472
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10	1	J
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10	1	J
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10	1	J
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155817-01

CAS NO.	Compound	ug/l	ug/l	Qualifier
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW09112995

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Matrix: (soil/water) WATER Lab Sample ID:155817-01

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4472

Level: (low/med) LOW Date Received:11/29/95

% Moisture: not dec. Date Analyzed:12/06/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-10-112995	Date Collected:	29-NOV-95
ETL Sample Number:	155817-02	Date Received:	29-NOV-95
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	STEWART	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4473
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155817-02

CAS NO.	Compound	ug/l	ug/l	Qualifier
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW10112995

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Matrix: (soil/water) WATER Lab Sample ID:155817-02

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4473

Level: (low/med) LOW Date Received:11/30/95

% Moisture: not dec. Date Analyzed:12/06/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	TB-1129	Date Collected:	29-NOV-95
ETL Sample Number:	155817-03	Date Received:	29-NOV-95
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	STEWART	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4471
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155817-03

CAS NO.	Compound	ug/l	ug/l	Qualifier
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-1129

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Matrix: (soil/water) WATER Lab Sample ID:155817-03

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4471

Level: (low/med) LOW Date Received:11/29/95

% Moisture: not dec. Date Analyzed:12/06/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

Number TICs Found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-01-112995	Date Collected:	29-NOV-95
ETL Sample Number:	155893-05	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4475
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10	2	J
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-05

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW01112995

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC817

Matrix: (soil/water) WATER Lab Sample ID: 155893-05

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4475

Level: (low/med) LOW Date Received: 11/30/95

% Moisture: not dec. Date Analyzed: 12/06/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 111-76-2	Ethanol, 2-butoxy-	23.69	10.	J
2.	Unknown	29.06	7.	J
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FORM I VOA-TIC 000062 3/90

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	TB-113095	Date Collected:	29-NOV-95
ETL Sample Number:	155893-07	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	07-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4486
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-07

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-113095

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART ANG

ab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AC817

Matrix: (soil/water) WATER   Lab Sample ID: 155893-07

ample wt/vol: 5.00 (g/ml) ML   Lab File ID: V4486

Level: (low/med) LOW   Date Received: 11/30/95

Moisture: not dec.   Date Analyzed: 12/07/95

GC Column: DB-624   ID: 0.53 (mm)   Dilution Factor: 1.0

oil Extract Volume: 0 (uL)   Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
umber TICs Found: 0   (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 000072   3/90

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-11-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155893-08	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4476
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-08

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW11113095

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Matrix: (soil/water) WATER Lab Sample ID:155893-08

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4476

Level: (low/med) LOW Date Received:11/30/95

% Moisture: not dec. Date Analyzed:12/06/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

000079

Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-05-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155893-09	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4477
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10	1	J
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-09

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW05113095

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART ANG

Lab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AC817

Matrix: (soil/water) WATER   Lab Sample ID: 155893-09

Sample wt/vol: 5.00 (g/ml) ML   Lab File ID: V4477

Level: (low/med) LOW   Date Received: 11/30/95

% Moisture: not dec.   Date Analyzed: 12/06/95

GC Column: DB-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: 0 (uL)   Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
Number TICs Found: 0   (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC   3/90

000086

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-15-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155893-10	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4478
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-10

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW15113095

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART ANG

Lab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AC817

Matrix: (soil/water) WATER   Lab Sample ID: 155893-10

Sample wt/vol: 5.00 (g/ml) ML   Lab File ID: V4478

Level: (low/med) LOW   Date Received: 11/30/95

% Moisture: not dec.   Date Analyzed: 12/06/95

GC Column: DB-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: 0 (uL)   Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC   3/90

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NYSDOH 10142   NJDEP 73507   CTDOHS PH-0554   EPA NY049

Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-08-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155893-11	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4479
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10	2	J
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-11

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW08113095

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC817

Matrix: (soil/water) WATER Lab Sample ID: 155893-11

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4479

Level: (low/med) LOW Date Received: 11/30/95

% Moisture: not dec. Date Analyzed: 12/06/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-06-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155893-12	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	06-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4480
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
15-35-4	1,1-Dichloroethene	10	2	J
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-8	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-12

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW06113095

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Matrix: (soil/water) WATER Lab Sample ID:155893-12

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4480

Level: (low/med) LOW Date Received:11/30/95

% Moisture: not dec. Date Analyzed:12/06/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC 3/90

000109

Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-07-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155893-13	Date Received:	30-NOV-95
Client Name:	ANEPTEK CORPORATION	Date Extracted:	
Project Name:	STANDARD	Date Analyzed:	07-DEC-95
% Solid:	NA	Report Date:	18-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4485
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10	6	J
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
110-75-8	2-Chloroethylvinylether	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155893-13

CAS NO.	Compound	ug/l	ug/l	Qualifier
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW07

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC817

Matrix: (soil/water) WATER Lab Sample ID: 155893-13

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4485

Level: (low/med) LOW Date Received: 11/30/95

% Moisture: not dec. Date Analyzed: 12/07/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE817

SOW No.: ILM02.0

EPA Sample No.	Lab Sample ID.
MW0911	155817-01
MW1011	155817-02

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: RONALD A. BAYER

Date: 1/11/96 Title: Lab Director

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Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE893

SOW No.: ILM02.0

EPA Sample No.	Lab Sample ID.
MW0511	155893-01
MW1511	155893-02
MW0611	155893-03
MW0811	155893-04
MW0111	155893-05
MW1111	155893-08
MW0711	155893-14

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: [signature] Name: RONALD A. BAYER

Date: 11/8/96 Title: Lab Director

COVER PAGE - IN ILM02.0

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORP.

Project Name: STEWART

ETL Sample Number: 155817-01

Client I.D.: MW-09-112995

Date Collected: 29-NOV-95

Matrix: 2 GW/WW

Date Received: 29-NOV-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	646	MG/L	2320 B	30-NOV-95
Aluminum	617	UG/L	200.7	19-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	19-DEC-95
Arsenic	1.2 U	UG/L	206.2	13-DEC-95
BOD	3.0 U	MG/L	5210 B	29-NOV-95
Barium	103 B E	UG/L	200.7	19-DEC-95
Beryllium	1.2 U	UG/L	200.7	19-DEC-95
Boron	88.7	UG/L	200.7	19-DEC-95
Bromide	1.0 U N	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	19-DEC-95
Calcium	175000	UG/L	200.7	19-DEC-95
Chemical Oxygen Demand	12.0 *	MG/L	410.2	06-DEC-95
Chlorides	158	MG/L	4500-CL B	04-DEC-95
Chromium	10.3 U *	UG/L	200.7	19-DEC-95
Cobalt	7.1 U	UG/L	200.7	19-DEC-95
Color	10	PT-CO	2120-B	30-NOV-95
Copper	3.0 B	UG/L	200.7	19-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2CLP*M	15-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	30-NOV-95
Iron	1520 E	UG/L	200.7	19-DEC-95
Lead	2.3 B N	UG/L	239.2	06-DEC-95
Magnesium	25500	UG/L	200.7	19-DEC-95
Manganese	1390	UG/L	200.7	19-DEC-95
Mercury	0.2 U	UG/L	245.1	05-DEC-95
Nickel	15.9 B	UG/L	200.7	19-DEC-95
Nitrate-Nitrite	0.2 U	MG/L	353.2	01-DEC-95
Potassium	4520 B E	UG/L	200.7	19-DEC-95
Selenium	1.6 U	UG/L	270.2	06-DEC-95
Silver	2.1 U N	UG/L	200.7	19-DEC-95
Sodium	104000	UG/L	200.7	19-DEC-95
Sulfate	38.0	MG/L	375.4	21-DEC-95
Thallium	1.2 U W	UG/L	279.2	14-DEC-95
Total Dissolved Solids	764	MG/L	160.1	01-DEC-95
Total Hardness	542	MG/L	200.7	19-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	27-NOV-95
Total Organic Carbon	3.4 *	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155817-01

Analysis	Result	Units	Method	Analyzed
Vanadium	11.4 B	UG/L	200.7	19-DEC-95
Zinc	75.2 E *	UG/L	200.7	19-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORP.

Project Name: STEWART

ETL Sample Number: 155817-02

Client I.D.: MW-10-112995

Date Collected: 29-NOV-95

Matrix: 2 GW/WW

Date Received: 29-NOV-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	450	MG/L	2320 B	30-NOV-95
Aluminum	1070	UG/L	200.7	19-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	19-DEC-95
Arsenic	1.2 U	UG/L	206.2	13-DEC-95
BOD	3.0 U	MG/L	5210 B	29-NOV-95
Barium	44.8 B E	UG/L	200.7	19-DEC-95
Beryllium	1.2 U	UG/L	200.7	19-DEC-95
Boron	65.6	UG/L	200.7	19-DEC-95
Bromide	1.0 U N	MG/L	300	04-DEC-95
Cadmium	3.0 B	UG/L	200.7	19-DEC-95
Calcium	95100	UG/L	200.7	19-DEC-95
Chemical Oxygen Demand	16.1 *	MG/L	410.2	06-DEC-95
Chlorides	98.1	MG/L	4500-CL B	04-DEC-95
Chromium	10.3 U *	UG/L	200.7	19-DEC-95
Cobalt	7.1 U	UG/L	200.7	19-DEC-95
Color	20	PT-CO	2120-B	30-NOV-95
Copper	7.2 B	UG/L	200.7	19-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2CLP*M	15-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	30-NOV-95
Iron	1800 E	UG/L	200.7	19-DEC-95
Lead	0.56 U N	UG/L	239.2	06-DEC-95
Magnesium	13800	UG/L	200.7	19-DEC-95
Manganese	122	UG/L	200.7	19-DEC-95
Mercury	0.2 U	UG/L	245.1	05-DEC-95
Nickel	14.1 U	UG/L	200.7	19-DEC-95
Nitrate-Nitrite	0.30	MG/L	353.2	01-DEC-95
Potassium	1200 B E	UG/L	200.7	19-DEC-95
Selenium	1.6 U W	UG/L	270.2	06-DEC-95
Silver	4.7 B N	UG/L	200.7	19-DEC-95
Sodium	128000	UG/L	200.7	19-DEC-95
Sulfate	53.0	MG/L	375.4	21-DEC-95
Thallium	1.2 U W	UG/L	279.2	14-DEC-95
Total Dissolved Solids	604	MG/L	160.1	01-DEC-95
Total Hardness	294	MG/L	200.7	19-DEC-95
Total Kjeldahl Nitrogen	1.2	MG/L	4500-HN3 H	27-NOV-95
Total Organic Carbon	5.0 *	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
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Results are continued from the previous page for 155817-02

Analysis	Result	Units	Method	Analyzed
Vanadium	6.7 B	UG/L	200.7	19-DEC-95
Zinc	30.5 * E	UG/L	200.7	19-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-01

Client I.D.: MW-05-113095

Date Collected: 30-NOV-95

Matrix: 2 GW/WW

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	139	MG/L	2320 B	05-DEC-95
Aluminum	55.6 B	UG/L	200.7	20-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	36.7 B	UG/L	200.7	20-DEC-95
Arsenic	1.2 U	UG/L	206.2	18-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	33.1 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	12.9 B	UG/L	200.7	20-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	20-DEC-95
Calcium	84900 E	UG/L	200.7	20-DEC-95
Chemical Oxygen Demand	10.0	MG/L	410.2	06-DEC-95
Chlorides	83.9	MG/L	4500 CLB	15-DEC-95
Chromium	13.0	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Color	2.5	PT-CO	2120-B	01-DEC-95
Copper	4.6 B	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	102 B	UG/L	200.7	20-DEC-95
Lead	0.56 U	UG/L	239.2	18-DEC-95
Magnesium	13500 E	UG/L	200.7	20-DEC-95
Manganese	709 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Nitrate-Nitrite	0.2 U	MG/L	353.2	01-DEC-95
Potassium	877	UG/L	200.7	20-DEC-95
Selenium	1.6 U	UG/L	270.2	19-DEC-95
Silver	3.0 B N	UG/L	200.7	20-DEC-95
Sodium	8960 E	UG/L	200.7	20-DEC-95
Sulfate	20.0	MG/L	375.4	27-DEC-95
Thallium	1.6 B	UG/L	279.2	20-DEC-95
Total Dissolved Solids	336	MG/L	160.1	05-DEC-95
Total Hardness	267	MG/L	200.7	20-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	0.5 U	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155893-01

Analysis	Result	Units	Method	Analyzed
Vanadium	13.1 B	UG/L	200.7	20-DEC-95
Zinc	86.1 * N E	UG/L	200.7	20-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-02

Client I.D.: MW-15-113095

Date Collected: 30-NOV-95

Matrix: 2 GW/WW

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	148	MG/L	2320 B	05-DEC-95
Aluminum	59.5 B	UG/L	200.7	20-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	44.0 B	UG/L	200.7	20-DEC-95
Arsenic	1.2 U	UG/L	206.2	18-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	32.4 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	14.2 B	UG/L	200.7	20-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	4.4 B	UG/L	200.7	20-DEC-95
Calcium	77600 E	UG/L	200.7	20-DEC-95
Chemical Oxygen Demand	8.0	MG/L	410.2	06-DEC-95
Chlorides	83.9	MG/L	4500 CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Color	2.5	PT-CO	2120-B	01-DEC-95
Copper	6.0 B	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	174	UG/L	200.7	20-DEC-95
Lead	1.2 B	UG/L	239.2	18-DEC-95
Magnesium	12800 E	UG/L	200.7	20-DEC-95
Manganese	681 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Nitrate-Nitrite	0.2 U	MG/L	353.2	01-DEC-95
Potassium	817 B	UG/L	200.7	20-DEC-95
Selenium	1.6 U	UG/L	270.2	19-DEC-95
Silver	3.4 B N	UG/L	200.7	20-DEC-95
Sodium	8470 E	UG/L	200.7	20-DEC-95
Sulfate	19.5	MG/L	375.4	27-DEC-95
Thallium	1.2 U	UG/L	279.2	20-DEC-95
Total Dissolved Solids	338	MG/L	160.1	05-DEC-95
Total Hardness	246	MG/L	200.7	20-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	0.5 U	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
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Results are continued from the previous page for 155893-02

Analysis	Result	Units	Method	Analyzed
Vanadium	5.4 B	UG/L	200.7	20-DEC-95
Zinc	31.3 * N E	UG/L	200.7	20-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-03

Client I.D.: MW-06-113095

Matrix: 2 GW/WW

Date Collected: 30-NOV-95

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	178	MG/L	2320 B	05-DEC-95
Aluminum	161 B	UG/L	200.7	20-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	20-DEC-95
Arsenic	1.2 U	UG/L	206.2	18-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	17.1 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	56.2	UG/L	200.7	20-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	5.4 B	UG/L	200.7	20-DEC-95
Calcium	64900 E	UG/L	200.7	20-DEC-95
Chemical Oxygen Demand	12.0	MG/L	410.2	06-DEC-95
Chlorides	66.1	MG/L	4500 CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Color	5.0	PT-CO	2120-B	01-DEC-95
Copper	9.1 B	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	317	UG/L	200.7	20-DEC-95
Lead	1.2 B	UG/L	239.2	18-DEC-95
Magnesium	6310 E	UG/L	200.7	20-DEC-95
Manganese	63.7 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Nitrate-Nitrite	0.80	MG/L	353.2	01-DEC-95
Potassium	748 B	UG/L	200.7	20-DEC-95
Selenium	1.6 U	UG/L	270.2	19-DEC-95
Silver	5.2 B N	UG/L	200.7	20-DEC-95
Sodium	49900 E	UG/L	200.7	20-DEC-95
Sulfate	28.0	MG/L	375.4	27-DEC-95
Thallium	1.2 U W	UG/L	279.2	20-DEC-95
Total Dissolved Solids	300	MG/L	160.1	05-DEC-95
Total Hardness	188	MG/L	200.7	20-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	1.9	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
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Results are continued from the previous page for 155893-03

Analysis	Result	Units	Method	Analyzed
Vanadium	10.2 B	UG/L	200.7	20-DEC-95
Zinc	121 * N E	UG/L	200.7	20-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
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Client Name: ANEPTEK CORPORATION
Project Name: STANDARD
ETL Sample Number: 155893-04
Client I.D.: MW-08-113095
Date Collected: 30-NOV-95
Matrix: 2 GW/WW
Date Received: 30-NOV-95
Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	202	MG/L	2320 B	05-DEC-95
Aluminum	448	UG/L	200.7	20-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	20-DEC-95
Arsenic	1.2 U	UG/L	206.2	18-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	38.3 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	59.5	UG/L	200.7	20-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	4.3 B	UG/L	200.7	20-DEC-95
Calcium	74200 E	UG/L	200.7	20-DEC-95
Chemical Oxygen Demand	4.0	MG/L	410.2	06-DEC-95
Chlorides	23.1	MG/L	4500 CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Color	5.0	PT-CO	2120-B	01-DEC-95
Copper	7.9 B	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	770	UG/L	200.7	20-DEC-95
Lead	1.5 B	UG/L	239.2	18-DEC-95
Magnesium	9190 E	UG/L	200.7	20-DEC-95
Manganese	86.7 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Nitrate-Nitrite	0.70	MG/L	353.2	01-DEC-95
Potassium	1470 B	UG/L	200.7	20-DEC-95
Selenium	1.6 U	UG/L	270.2	19-DEC-95
Silver	5.4 B N	UG/L	200.7	20-DEC-95
Sodium	35500 E	UG/L	200.7	20-DEC-95
Sulfate	46.0	MG/L	375.4	27-DEC-95
Thallium	1.2 U W	UG/L	279.2	20-DEC-95
Total Dissolved Solids	266	MG/L	160.1	05-DEC-95
Total Hardness	223	MG/L	200.7	20-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	1.2	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
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Results are continued from the previous page for 155893-04

Analysis	Result	Units	Method	Analyzed
Vanadium	5.8 B	UG/L	200.7	20-DEC-95
Zinc	32.5 * N E	UG/L	200.7	20-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-05

Client I.D.: MW-01-112995

Date Collected: 29-NOV-95

Matrix: 2 GW/WW

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Aluminum	557	UG/L	200.7	20-DEC-95
Antimony	34.1 B	UG/L	200.7	20-DEC-95
Arsenic	7.3 B	UG/L	206.2	18-DEC-95
Barium	14.3 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	76.6	UG/L	200.7	20-DEC-95
Cadmium	6.1	UG/L	200.7	20-DEC-95
Calcium	35600 E	UG/L	200.7	20-DEC-95
Chromium	14.7	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Copper	9.5 B	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Iron	711	UG/L	200.7	20-DEC-95
Lead	2.0 B	UG/L	239.2	18-DEC-95
Magnesium	3380 E B	UG/L	200.7	20-DEC-95
Manganese	27.3 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Potassium	2020 B	UG/L	200.7	20-DEC-95
Selenium	1.6 U	UG/L	270.2	19-DEC-95
Silver	4.1 B N	UG/L	200.7	20-DEC-95
Sodium	57900 E	UG/L	200.7	20-DEC-95
Thallium	1.2 U W	UG/L	279.2	20-DEC-95
Total Hardness	103	MG/L	200.7	20-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95
Vanadium	30.8 B	UG/L	200.7	20-DEC-95
Zinc	265 * N E	UG/L	200.7	20-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-06

Client I.D.: MW-01-113095

Date Collected: 29-NOV-95

Matrix: 2 GW/WW

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	131	MG/L	2320 B	05-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Chemical Oxygen Demand	12.0	MG/L	410.2	06-DEC-95
Chlorides	2.0 U	MG/L	4500 CLB	15-DEC-95
Color	10	PT-CO	2120-B	01-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Nitrate-Nitrite	0.2 U	MG/L	353.2	01-DEC-95
Sulfate	76.0	MG/L	375.4	27-DEC-95
Total Dissolved Solids	180	MG/L	160.1	05-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	1.3	MG/L	415.2	08-DEC-95

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-08

Client I.D.: MW-11-113095

Date Collected: 30-NOV-95

Matrix: 2 GW/WW

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	278	MG/L	2320 B	05-DEC-95
Aluminum	59.5 B	UG/L	200.7	20-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	20-DEC-95
Arsenic	1.2 U	UG/L	206.2	18-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	11.3 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	9.6 B	UG/L	200.7	20-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	20-DEC-95
Calcium	103000 E	UG/L	200.7	20-DEC-95
Chemical Oxygen Demand	4.0 U	MG/L	410.2	06-DEC-95
Chlorides	11.6	MG/L	4500 CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Color	2.5	PT-CO	2120-B	01-DEC-95
Copper	2.7 U	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	81.6 B	UG/L	200.7	20-DEC-95
Lead	0.87 B	UG/L	239.2	18-DEC-95
Magnesium	9000 E	UG/L	200.7	20-DEC-95
Manganese	40.9 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Nitrate-Nitrite	0.77	MG/L	353.2	01-DEC-95
Potassium	1200 B	UG/L	200.7	20-DEC-95
Selenium	1.6 U	UG/L	270.2	19-DEC-95
Silver	2.8 B N	UG/L	200.7	20-DEC-95
Sodium	17500 E	UG/L	200.7	20-DEC-95
Sulfate	46.0	MG/L	375.4	27-DEC-95
Thallium	1.2 U W	UG/L	279.2	20-DEC-95
Total Dissolved Solids	322	MG/L	160.1	05-DEC-95
Total Hardness	295	MG/L	200.7	20-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	6.3	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155893-08

Analysis	Result	Units	Method	Analyzed
Vanadium	6.6 B	UG/L	200.7	20-DEC-95
Zinc	60.7 * N E	UG/L	200.7	20-DEC-95

Remarks:

EnviroTest Laboratories Inc.
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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORPORATION

Project Name: STANDARD

ETL Sample Number: 155893-14

Client I.D.: MW-07-113095

Date Collected: 30-NOV-95

Matrix: 2 GW/WW

Date Received: 30-NOV-95

Comments: STEWART ANG SITE

Analysis	Result	Units	Method	Analyzed
Alkalinity	323	MG/L	2320 B	05-DEC-95
Aluminum	92.8 B	UG/L	200.7	20-DEC-95
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	20-DEC-95
Arsenic	1.2 U	UG/L	206.2	18-DEC-95
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	11.7 B	UG/L	200.7	20-DEC-95
Beryllium	1.2 U	UG/L	200.7	20-DEC-95
Boron	27.5 B	UG/L	200.7	20-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	4.8 B	UG/L	200.7	20-DEC-95
Calcium	120000 E	UG/L	200.7	20-DEC-95
Chemical Oxygen Demand	4.0 U	MG/L	410.2	06-DEC-95
Chlorides	39.5	MG/L	4500 CLB	15-DEC-95
Chromium	11.8	UG/L	200.7	20-DEC-95
Cobalt	7.1 U	UG/L	200.7	20-DEC-95
Color	5.0	PT-CO	2120-B	01-DEC-95
Copper	2.7 U	UG/L	200.7	20-DEC-95
Cyanide, Total	10.0 U	UG/L	335.2	21-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	111 B	UG/L	200.7	20-DEC-95
Lead	1.2 B	UG/L	239.2	18-DEC-95
Magnesium	19200 E	UG/L	200.7	20-DEC-95
Manganese	260 E	UG/L	200.7	20-DEC-95
Mercury	0.2 U	UG/L	245.1	22-DEC-95
Nickel	14.1 U	UG/L	200.7	20-DEC-95
Nitrate-Nitrite	0.32	MG/L	353.2	01-DEC-95
Potassium	1190 B	UG/L	200.7	20-DEC-95
Selenium	1.6 U W	UG/L	270.2	19-DEC-95
Silver	4.6 B N	UG/L	200.7	20-DEC-95
Sodium	22500 E	UG/L	200.7	20-DEC-95
Sulfate	42.0	MG/L	375.4	27-DEC-95
Thallium	1.2 U W	UG/L	279.2	20-DEC-95
Total Dissolved Solids	424	MG/L	160.1	05-DEC-95
Total Hardness	379	MG/L	200.7	20-DEC-95
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-HN3 H	04-DEC-95
Total Organic Carbon	0.57	MG/L	415.2	08-DEC-95
Total Phenols	0.01 U	MG/L	420.1	06-DEC-95

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155893-14

Analysis	Result	Units	Method	Analyzed
Vanadium	5.5 B	UG/L	200.7	20-DEC-95
Zinc	167 * N E	UG/L	200.7	20-DEC-95

Remarks:

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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

	EPA SAMPLE NO.	SMC1 (TOL)#	SMC2 (BFB)#	SMC3 (DCE)#	OTHER	TOT OUT
01	MW01112995	100	98	104		0
02	MW05113095	102	100	108		0
03	MW06113095	96	96	100		0
04	MW07	102	102	102		0
05	MW07MS	108	110	108		0
06	MW07MSD	106	106	108		0
07	MW08113095	100	98	104		0
08	MW09112995	100	100	106		0
09	MW10112995	100	100	106		0
10	MW11113095	100	100	106		0
11	MW15113095	98	96	102		0
12	TB-1129	104	104	108		0
13	TB-113095	102	102	102		0
14	VBLKC2	100	100	100		0
15	VBLKC3	104	104	104		0
16	VBSPK	106	106	106		0
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC817

Matrix Spike - EPA Sample No.: MW07

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	20.	0.	20.	100	83-136
Benzene	20.	0.	21.	105	64-170
Trichloroethene	20.	0.	20.	100	68-131
Toluene	20.	0.	21.	105	64-132
Chlorobenzene	20.	0.	20.	100	91-115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20.	20.	100	0	14	83-136
Benzene	20.	21.	105	0	14	64-170
Trichloroethene	20.	21.	105	5	11	68-131
Toluene	20.	21.	105	0	13	64-132
Chlorobenzene	20.	21.	105	5	13	91-115

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

VOLATILE WATER BLANK SPIKE RECOVERY

Client Name: Aneptek

Lab Name: EnviroTest Laboratories, Inc.

ETL Sample No.: VBSPK

Client Sample ID.: VBSPK

Date of Analysis: 12/7/95

Instrument ID: MSD

COMPOUND	SPIKE ADDED (ug/l)	SAMPLE CONCENTRATION (ug/l)	BLKSPK CONCENTRATION (ug/l)	BLKSPK % REC. #	QC LIMITS REC.
1,1-Dichloroethene	20.00	U	21	105.0	83-136
Trichloroethene	20.00	U	22	110.0	64-170
Benzene	20.00	U	21	105.0	68-131
Toluene	20.00	U	21	105.0	64-132
Chlorobenzene	20.00	U	21	105.0	91-115

Column to be used to flag recovery values
* Values outside of EnviroTest established QC limits

FORM III VOA-1

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6
DUPLICATES

EPA SAMPLE NO.

MW0911D

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE817

Matrix (soil/water): WATER   Level (low/med): LOW

% Solids for Sample: 100.0   % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	222.2	616.4996		651.4913		5.5		PM
Antimony		23.4444	U	23.4444	U			PM
Arsenic		1.2222	U	1.2222	U			FM
Barium		102.5558	B	107.2536	B	4.5		PM
Beryllium		1.2222	U	1.2222	U			PM
Cadmium		2.6667	U	2.9489	B	200.0		PM
Calcium		175051.1900		182159.8000		4.0		PM
Chromium	11.1	10.3333	U	23.9049		200.0	*	PM
Cobalt		7.1111	U	7.1111	U			PM
Copper		3.0466	B	4.4238	B	36.9		PM
Iron		1520.0576		1608.5242		5.7		PM
Lead		2.3111	B	2.5000	B	7.9		FM
Magnesium	5555.6	25541.9970		26460.1110		3.5		PM
Manganese		1385.6426		1440.4826		3.9		PM
Mercury		0.2000	U	0.2000	U			CV
Nickel		15.8992	B	25.9781	B	48.1		PM
Potassium		4522.3300	B	4741.1967	B	4.7		PM
Selenium		1.5556	U	1.5556	U			FM
Silver		2.1111	U	3.4278	B	200.0		PM
Sodium		104261.3300		108006.4100		3.5		PM
Thallium		1.2222	U	1.2222	U			FM
Vanadium		11.4279	B	12.2442	B	6.9		PM
Zinc	22.2	75.1858		32.5604		79.1	*	PM
Cyanide		10.0000	U	10.0000	U			C

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6
DUPLICATES

EPA SAMPLE NO.

MW0511D

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE893

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		55.6100	B	60.4457	B	8.3		PM
Antimony		36.6807	B	23.4444	U	200.0		PM
Arsenic		1.2222	U	1.2222	U			FM
Barium		33.0902	B	36.0908	B	8.7		PM
Beryllium		1.2222	U	1.2222	U			PM
Cadmium		2.6667	U	3.6791	B	200.0		PM
Calcium		84867.8860		86994.9690		2.5		PM
Chromium	11.1	13.0190		10.3333	U	200.0		PM
Cobalt		7.1111	U	7.1111	U			PM
Copper		4.6061	B	5.9343	B	25.2		PM
Iron	111.1	102.2789	B	113.9173		10.8		PM
Lead		0.1111	U	0.5556	B	200.0		FM
Magnesium	5555.6	13476.5520		14289.9470		5.9		PM
Manganese		708.8723		755.9981		6.4		PM
Mercury		0.2000	U	0.2000	U			CV
Nickel		14.1111	U	14.1111	U			PM
Potassium		876.8428	B	945.6148	B	7.5		PM
Selenium		1.5556	U	1.5556	U			FM
Silver		2.9824	B	4.4140	B	38.7		PM
Sodium	5555.6	8956.0720		9565.0470		6.6		PM
Thallium		1.6444	B	1.2222	U	200.0		FM
Vanadium		13.0563	B	12.0963	B	7.6		PM
Zinc	22.2	86.0689		40.1708		72.7	*	PM
Cyanide		10.0000	U	20.0000	U			C

FORM VI - IN ILM02.0

000247

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MW0911S

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE817

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 100.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2338.0026		616.4996		2000.00	86.1		PM
Antimony	75-125	500.5831		23.4444	U	500.00	100.1		PM
Arsenic	75-125	38.7667		1.2222	U	40.00	96.9		FM
Barium	75-125	1845.6050		102.5558	B	2000.00	87.2		PM
Beryllium	75-125	42.5161		1.2222	U	50.00	85.0		PM
Cadmium	75-125	45.0613		2.6667	U	50.00	90.1		PM
Calcium									NR
Chromium	75-125	183.7259		10.3333	U	200.00	91.9		PM
Cobalt	75-125	418.2586		7.1111	U	500.00	83.7		PM
Copper	75-125	213.4670		3.0466	B	250.00	84.2		PM
Iron	75-125	2295.3072		1520.0576		1000.00	77.5		PM
Lead	75-125	15.7333		2.3111	B	20.00	67.1	N	FM
Magnesium									NR
Manganese	75-125	1841.4470		1385.6426		500.00	91.2		PM
Mercury	75-125	1.0020		0.2000	U	1.00	100.2		CV
Nickel	75-125	420.4898		15.8992	B	500.00	80.9		PM
Potassium									NR
Selenium	75-125	7.8889		1.5556	U	10.00	78.9		FM
Silver	75-125	35.1918		2.1111	U	50.00	70.4	N	PM
Sodium									NR
Thallium	75-125	57.4556		1.2222	U	50.00	114.9		FM
Vanadium	75-125	438.3422		11.4279	B	500.00	85.4		PM
Zinc	75-125	459.4212		75.1858		500.00	76.8		PM
Cyanide	75-125	88.0000		10.0000	U	100.00	88.0		C

Comments:

FORM V (PART 1) - IN ILM02.0

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5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MW0511S

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE893

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	1923.1403		55.6100	B	2000.00	93.4		PM
Antimony	75-125	531.6727		36.6807	B	500.00	99.0		PM
Arsenic	75-125	33.9556		1.2222	U	40.00	84.9		FM
Barium	75-125	1644.9170		33.0902	B	2000.00	80.6		PM
Beryllium	75-125	45.6053		1.2222	U	50.00	91.2		PM
Cadmium	75-125	50.3859		2.6667	U	50.00	100.8		PM
Calcium									NR
Chromium	75-125	188.5690		13.0190		200.00	87.8		PM
Cobalt	75-125	456.5053		7.1111	U	500.00	91.3		PM
Copper	75-125	228.4091		4.6061	B	250.00	89.5		PM
Iron	75-125	1015.4919		102.2789	B	1000.00	91.3		PM
Lead	75-125	16.8667		0.1111	U	20.00	84.3		FM
Magnesium									NR
Manganese	75-125	1136.7750		708.8723		500.00	85.6		PM
Mercury	75-125	1.0090		0.2000	U	1.00	100.9		CV
Nickel	75-125	429.0337		14.1111	U	500.00	85.8		PM
Potassium									NR
Selenium	75-125	8.4889		1.5556	U	10.00	84.9		FM
Silver	75-125	38.1754		2.9824	B	50.00	70.4	N	PM
Sodium									NR
Thallium	75-125	57.7000		1.6444	B	50.00	112.1		FM
Vanadium	75-125	466.0927		13.0563	B	500.00	90.6		PM
Zinc	75-125	460.4068		86.0689		500.00	74.9	N	PM
Cyanide	75-125	88.0000		10.0000	U	100.00	88.0		C

Comments:

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

A

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE817

Matrix (soil/water): Level (low/med):

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc									NR
Cyanide									NR

Comments:

FORM V (PART 2) - IN ILM02.0

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5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

MW0511A

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE893

Matrix (soil/water): WATER   Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc		147.33		77.46		88.0	79.4		PM
Cyanide									NR

Comments:

FORM V (PART 2) - IN   ILM02.0

000245

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METHOD BLANK MATRIX SPIKE AND DUPLICATE RESULTS

ENVIROTEST LABORATORIES
LAB ID: 10142
CLIENT NAME: ANEPTEK
CLIENT ID: MW0911
MATRIX: AQUEOUS

DATE RECEIVED: 11/29/95
REPORT DATE: 12/22/95

RESULTS IN MG/L

	ANALYTE	RESULT	Q	DUPLICATE	Q	RPD	Q	SAMPLE + SPIKE	SPIKE	%REC.	Q	METHOD BLANK	
(1)	ALKALINITY	18.20		18.20		0.0		117.20	100	99.0		2.0	U
	AMMONIA	0.20	U	0.20	U	0.0		1.00	1.0	100.0		0.2	U
(1)	BOD	110.00		102.00		7.5				NR		1.0	U
	BROMIDE	1.00	U	1.00	U	0.0		2.69	2.0	134.5	N	1.0	U
	CHLORIDE	158.00		158.00		0.0		51.70	20	100.5		2	U
	COD	12.00		16.10		29.2	*	60.20	50	108.5		2.0	U
	HEXCHROME	0.01	U	0.01	U	0.0		0.019	0.02	95.0		0.01	U
	NO3-NO2	0.20	U	0.20	U	0.0		0.53	0.5	106.0		0.2	U
	SULFATE	38.00		38.00		0.0		29.00	10	100.0		5.0	U
	TDS	764.00		800.00		4.6				NR		2.0	U
	TKN	0.50	U	0.50	U	0.0		3.30	3	165.0	N	0.5	U
	TOC	3.40		2.60		26.7	*	22.50	20	95.5		0.5	U
	PHENOLS	0.01	U	0.03	U	0.0		0.016	0.02	80.0		0.01	U

(1) Batch related Qualtiy control

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METHOD BLANK MATRIX SPIKE AND DUPLICATE RESULTS

ENVIROTEST LABORATORIES
LAB ID: 10142
CLIENT NAME: ANEPTEK
CLIENT ID: MW0511
MATRIX: AQUEOUS

DATE RECEIVED: 11/30/95
REPORT DATE: 12/29/95

RESULTS IN MG/L

ANALYTE	RESULT	Q	DUPLICATE	Q	RPD	Q	SAMPLE + SPIKE	SPIKE	%REC.	Q	METHOD BLANK	
ALKALINITY	139.00		137.00		1.4		240.40	100	101.4		2.0	U
AMMONIA	0.20	U	0.20	U	0.0		1.10	1.0	110.0		0.2	U
BOD	3.00	U	3.00	U	0.0				NR		1.0	U
BROMIDE	1.00	U	1.00	U	0.0		2.20	2.0	110.0		1.0	U
CHLORIDE	83.90		84.90		1.2		61.70	20	98.8		2	U
COD	10.00		4.00	U	NC		52.20	50	94.4		2.0	U
HEXCHROME	0.01	U	0.01	U	0.0		0.021	0.02	105.0		0.01	U
NO3-NO2	0.20	U	0.20	U	0.0		0.49	0.5	98.0		0.2	U
SULFATE	20.00		20.00		0.0		38.00	20	90.0		5.0	U
TDS	336.00		360.00		6.9				NR		2.0	U
TKN	0.50	U	0.50	U	0.0		2.10	2.0	105.0		0.5	U
TOC	0.50	U	0.50	U	0.0		20.09	20	100.4		0.5	U
PHENOLS	0.01	U	0.03	U	0.0		0.008	0.010	80.0		0.01	U

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKC2

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Lab File ID:V4469 Lab Sample ID:VBLKC2

Date Analyzed:12/06/95 Time Analyzed:0044

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID:MSD

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW01112995	155893-05	V4475	1704
02	MW05113095	155893-09	V4477	1830
03	MW06113095	155893-12	V4480	2040
04	MW08113095	155893-11	V4479	1957
05	MW09112995	155817-01	V4472	1454
06	MW10112995	155817-02	V4473	1537
07	MW11113095	155893-08	V4476	1747
08	MW15113095	155893-10	V4478	1913
09	TB-1129	155817-03	V4471	1411
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COMMENTS:

FORM IV VOA 3/90

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKC3

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Lab File ID:V4483 Lab Sample ID:VBLKC3

Date Analyzed:12/07/95 Time Analyzed:1610

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID:MSD

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW07	155893-13	V4485	1748
02	MW07MS	155893-13MS	V4488	1957
03	MW07MSD	155893-13MSD	V4489	2041
04	TB-113095	155893-07	V4486	1831
05	VBSPK	VBSPK	V4487	1914
06				
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COMMENTS:

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3
BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE817

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	17.4	U	17.4	U	23.6	B			19.333	U	PM
Antimony	21.1	U	21.1	U	21.1	U			23.444	U	PM
Arsenic	1.1	U	1.1	U	1.1	U	1.1	U	1.222	U	FM
Barium	0.7	U	0.7	U	0.8	B			0.778	U	PM
Beryllium	1.1	U	1.1	U	1.1	U			1.222	U	PM
Cadmium	2.4	U	2.4	U	2.4	U			2.667	U	PM
Calcium	10.3	U	10.3	U	13.0	B			11.444	U	PM
Chromium	9.3	U	9.3	U	9.3	U			10.333	U	PM
Cobalt	6.4	U	6.4	U	-6.9	B			7.111	U	PM
Copper	2.4	U	2.4	U	3.9	B			2.667	U	PM
Iron	5.2	U	5.2	U	5.2	U			5.778	U	PM
Lead	0.1	U	0.2	B	-0.4	B	-0.1	B	0.322	B	FM
Magnesium	14.0	U	14.0	U	-16.7	B			-26.763	B	PM
Manganese	0.9	U	0.9	U	0.9	U			1.000	U	PM
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	12.7	U	12.7	U	12.7	U			14.111	U	PM
Potassium	60.7	U	60.7	U	64.0	B			67.444	U	PM
Selenium	1.4	U	1.4	U	1.4	U	1.4	U	1.556	U	FM
Silver	1.9	U	1.9	U	3.7	B			2.111	U	PM
Sodium	22.8	U	22.8	U	43.3	B			25.333	U	PM
Thallium	1.1	U	1.1	U	1.1	U	1.1	U	1.222	U	FM
Vanadium	3.1	U	3.1	U	3.1	U			3.444	U	PM
Zinc	1.3	U	1.3	U	1.6	B			3.047	B	PM
Cyanide	10.0	U	10.0	U	10.0	U			10.000	U	C

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BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE817

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic			1.1	U	1.1	U	1.1	U			FM
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			0.2	B	0.4	B	6.2				FM
Magnesium											
Manganese											
Mercury			0.2	U	0.2	U	0.2	U			CV
Nickel											
Potassium											
Selenium			1.4	U	1.4	U	1.4	U			FM
Silver											
Sodium											
Thallium			1.1	U	1.1	U	1.1	U			FM
Vanadium											
Zinc											
Cyanide											

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BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE817

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic			1.1	U	1.1	U	1.1	U			FM
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			-1.8	B	-1.0	B					FM
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			1.4	U	1.4	U					FM
Silver											
Sodium											
Thallium			1.1	U							FM
Vanadium											
Zinc											
Cyanide											

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3
BLANKS

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE893

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	17.4	U	17.4	U	17.4	U	17.4	U	19.333	U	PM
Antimony	21.1	U	21.1	U	21.1	U	21.1	U	23.444	U	PM
Arsenic	1.1	U	1.1	U	1.1	U	1.1	U	-2.044	B	FM
Barium	0.7	U	1.1	B	0.7	U	0.7	U	0.778	U	PM
Beryllium	1.1	U	1.1	U	1.1	U	1.1	U	1.222	U	PM
Cadmium	2.4	U	2.7	B	2.4	U	3.1	B	3.787	B	PM
Calcium	17.8	B	21.6	B	10.3	U	10.3	U	11.444	U	PM
Chromium	9.3	U	9.3	U	9.3	U	9.3	U	10.333	U	PM
Cobalt	6.4	U	6.4	U	6.4	U	6.4	U	-8.324	B	PM
Copper	3.1	B	4.6	B	2.4	U	2.4	U	3.185	B	PM
Iron	5.2	U	5.2	U	5.2	U	5.2	U	6.759	B	PM
Lead	-0.4	B	0.3	B	0.4	B	0.1	U	0.856	B	FM
Magnesium	14.0	U	14.0	U	14.0	U	14.0	U	15.556	U	PM
Manganese	0.9	U	0.9	U	0.9	U	0.9	U	1.000	U	PM
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.200	U	CV
Nickel	12.7	U	12.7	U	12.7	U	12.7	U	-15.171	B	PM
Potassium	60.7	U	60.7	U	60.7	U	60.7	U	67.444	U	PM
Selenium	1.4	U	1.4	U	1.4	U	1.4	U	1.556	U	FM
Silver	3.0	B	3.8	B	1.9	U	1.9	U	2.111	U	PM
Sodium	-25.1	B	-25.1	B	22.8	U	22.8	U	25.333	U	PM
Thallium	1.1	U	1.1	U	1.1	U	1.1	U	1.222	U	FM
Vanadium	3.1	U	-6.3	B	3.1	U	3.1	U	3.444	U	PM
Zinc	1.3	U	1.5	B	1.3	U	1.3	U	1.444	U	PM
Cyanide	10.0	U	10.0	U	10.0	U			10.000	U	C

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3
BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE893

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic			1.1	U	1.1	U	1.1	U			FM
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			0.2	B	0.1	B	-0.2	B			FM
Magnesium											
Manganese											
Mercury			0.2	U	0.2	U					CV
Nickel											
Potassium											
Selenium			1.4	U	1.4	U	1.4	U			FM
Silver											
Sodium											
Thallium			1.1	U							FM
Vanadium											
Zinc											
Cyanide											

FORM III - IN ILM02.0

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BLANKS

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE893

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic			-1.1	B	-1.2	B	-1.2	B			FM
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			0.8	B	0.8	B					FM
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE893

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic			1.1	U	1.1	U					FM
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: VBLKC2
EnviroTest Lab No: VBLKC2
Client Name: Aneptek
Project Name: Stewart
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml

Date Collected:
Date Received:
Date Analyzed: 12/6/95
Report Date: 1/18/96
Level: Low
Column: DB-624
Lab File ID: V4469
Dilution Factor: 1

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-35-3	1,1-Dichloroethane	10	U
156-60-5	1,2-Dichloroethene, Total	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes, Total	10	U

FORM 1 - VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: VBLKC2
EnviroTest Lab No: VBLKC2
Client Name: Aneptek
Project Name: Stewart
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml

Date Collected:
Date Received:
Date Analyzed: 12/6/95
Report Date: 1/18/96
Level: Low
Column: DB-624
Lab File ID: V4469
Dilution Factor: 1

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
106-03-4	1,2-Dibromoethane	10	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U
74-95-3	Dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
74-88-4	Iodomethane	10	U
630-20-6	1,1,1,2-Tetrachlorethane	10	U
96-18-4	1,2,3-Trichloropropane	10	U
75-69-4	Trichlorofluoromethane	10	U
107-13-1	Acrylonitrile	10	U
74-97-5	Bromochloromethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U

FORM I - VOA

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKC2

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Matrix: (soil/water) WATER Lab Sample ID:VBLKC2

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4469

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. Date Analyzed:12/06/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: VBLKC3
EnviroTest Lab No: VBLKC3
Client Name: Aneptek
Project Name: Stewart
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml

Date Collected:
Date Received:
Date Analyzed: 12/7/95
Report Date: 1/18/96
Level: Low
Column: DB-624
Lab File ID: V4483
Dilution Factor: 1

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-35-3	1,1-Dichloroethane	10	U
156-60-5	1,2-Dichloroethene, Total	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes, Total	10	U

FORM 1 - VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: VBLKC3
EnviroTest Lab No: VBLKC3
Client Name: Aneptek
Project Name: Stewart
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml

Date Collected:
Date Received:
Date Analyzed: 12/7/95
Report Date: 1/18/96
Level: Low
Column: DB-624
Lab File ID: V4483
Dilution Factor: 1

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
106-03-4	1,2-Dibromoethane	10	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U
74-95-3	Dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
74-88-4	Iodomethane	10	U
630-20-6	1,1,1,2-Tetrachlorethane	10	U
96-18-4	1,2,3-Trichloropropane	10	U
75-69-4	Trichlorofluoromethane	10	U
107-13-1	Acrylonitrile	10	U
74-97-5	Bromochloromethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U

FORM I - VOA

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKC3

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC817

Matrix: (soil/water) WATER Lab Sample ID: VBLKC3

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4483

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. Date Analyzed: 12/07/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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EnviroTest Laboratories Inc
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FAX (914) 562-0841

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Lab File ID (Standard):VS840 Date Analyzed:12/06/95

Instrument ID:MSD Time Analyzed:1045

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 (FBZ) AREA #	RT #	IS3 (CBZ) AREA #	RT #	AREA #	RT #
	12 HOUR STD	223984	14.80	195850	21.21		
	UPPER LIMIT	447968	15.30	391700	21.71		
	LOWER LIMIT	111992	14.30	97925	20.71		
	EPA SAMPLE NO.						
01	TB-1129	221718	14.80	197136	21.23		
02	MW09112995	221544	14.80	199342	21.23		
03	MW10112995	215068	14.80	193115	21.23		
04	MW01112995	214506	14.80	191038	21.23		
05	MW11113095	216206	14.80	194727	21.23		
06	MW05113095	212401	14.80	190793	21.23		
07	MW15113095	220727	14.80	198389	21.23		
08	MW08113095	218841	14.80	195360	21.23		
09	MW06113095	213457	14.80	191855	21.23		
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IS1 (FBZ) = Fluorobenzene

IS3 (CBZ) = Chlorobenzene-d5 1.17.96

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside of QC limits with an asterisk.
* Values outside of QC limits.

8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC817

Lab File ID (Standard):VS843 Date Analyzed:12/07/95

Instrument ID:MSD Time Analyzed:1424

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

	-	IS1(FBZ) AREA #	RT #	IS3(CBZ) AREA #	RT #	AREA #	RT #
	12 HOUR STD	228062	14.80	202699	21.21		
	UPPER LIMIT	456124	15.30	405398	21.71		
	LOWER LIMIT	114031	14.30	101350	20.71		
	EPA SAMPLE NO.						
01	VBLKC3	218379	14.80	195792	21.21		
02	MW07	216604	14.79	193167	21.22		
03	TB-113095	226276	14.80	201706	21.23		
04	VBSPK	215925	14.80	191015	21.21		
05	MW07MS	221744	14.80	196129	21.21		
06	MW07MSD	216349	14.80	192842	21.21		
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IS1 (FBZ) = Fluorobenzene

1.17.94 UT

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside of QC limits with an asterisk.
* Values outside of QC limits.

EnviroTest Laboratories Inc.

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Newburgh, NY 12550

SAMPLE DATA SUMMARY PACKAGE

Aneptek
Natick, MA

Project: STEWART ANG SITE 1
ETL Lab. #: 155919
Matrix: Water

1 of 1

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
155919-07	Water	12/1/95	12/1/95	----	12/8/95
155919-08	Water	12/1/95	12/1/95	----	12/8/95
155919-09	Water	12/1/95	12/1/95	----	12/8/95
155919-10	Water	12/1/95	12/1/95	----	12/8/95
155919-11	Water	12/1/95	12/1/95	----	12/8/95
155919-12	Water	11/30/95	12/1/95	----	12/8/95
155919-13	Water	11/30/95	12/1/95	----	12/8/95

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155919-01	Water	NO3-NO2	12/1/95	12/11/95
		Cn		12/22/95
		TKN		12/12/95
		TOC, Phenol		12/13/95
		COD		12/15/95
		Hg		12/29/95
		As, Pb		1/2/95
		Se, Tl		1/4/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, Total Hardness, Zn, V		1/5/95
		NH3		1/7/95
155919-02	Water	BOD, CR+6	12/1/95	12/1/95
		Br, Color		12/4/95
		Alk		12/5/95
		TDS		12/6/95
		Cl		12/15/95
		SO4		12/28/95
155919-03	Water	NO3-NO2	12/1/95	12/11/95
		Cn		12/22/95
		TKN		12/12/95
		TOC, Phenol		12/13/95
		COD, Cl		12/15/95
		Hg		12/29/95
		As, Pb		1/2/95
		Se, Tl		1/4/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na Total Hardness, Zn, V		1/5/95
		NH3		1/7/95
		BOD, Cr+6		12/1/95
		SO4		12/28/95
		TDS		12/6/95
		ALK		12/5/95
		Br, Color		12/4/95

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155919-04	Water	NO3-NO2	12/1/95	12/11/95
		Cn		12/22/95
		TKN		12/12/95
		TOC, Phenol		12/13/95
		COD, Cl		12/15/95
		Hg		12/29/95
		As, Pb		1/2/95
		Se, Tl		1/4/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na Total Hardness, Zn, V		1/5/95
		NH3		1/7/95
		BOD, Cr+6		12/1/95
		SO4		12/28/95
		TDS		12/6/95
		ALK		12/5/95
		Br, Color		12/4/95
155919-05	Water	NO3-NO2	12/1/95	12/11/95
		Cn		12/22/95
		TKN		12/12/95
		TOC, Phenol		12/13/95
		COD, Cl		12/15/95
		Hg		12/29/95
		As, Pb		1/2/95
		Se, Tl		1/4/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na Total Hardness, Zn, V		1/5/95
		NH3		1/7/95
		BOD, Cr+6		12/1/95
		SO4		12/28/95
		TDS		12/6/95
		ALK		12/5/95
		Br, Color		12/4/95

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES
page 3

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
155919-06	Water	NO3-NO2	12/1/95	12/11/95
		Cn		12/22/95
		TKN		12/12/95
		TOC, Phenol		12/13/95
		COD, Cl		12/15/95
		Hg		12/29/95
		As, Pb		1/2/95
		Se, Tl		1/4/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na Total Hardness, Zn, V		1/5/95
		NH3		1/7/95
		BOD, Cr+6		12/1/95
		SO4		12/28/95
		TDS		12/6/95
		ALK		12/5/95
		Br, Color		12/4/95
155919-07	Water	NO3-NO2	12/1/95	12/11/95
		Cn		12/22/95
		TKN		12/12/95
		TOC, Phenol		12/13/95
		COD, Cl		12/15/95
		Hg		12/29/95
		As, Pb		1/2/95
		Se, Tl		1/4/95
		Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na Total Hardness, Zn, V		1/5/95
		NH3		1/7/95
		BOD, Cr+6		12/1/95
		SO4		12/28/95
		TDS		12/6/95
		ALK		12/5/95
		Br, Color		12/4/95

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CASE NARRATIVE

Client: Aneptek Corp.
Date: 1/19/96
ETL Lab No. 155919

Volatiles

Calibration

Due to poor purging efficiency the calibration levels of acrylonitrile, iodomethane, carbon disulfide, vinyl acetate and t-1,4-dichloro-2-butene are 10, 20, 50, 100 and 200 ug/l.

Wet Chemistry

Phenols

Due to insufficient sample volume, the following samples were distilled for total phenol using 200ml instead of 500ml.

SW-03-120195D (155919-04D)
SW-03-120195S (155919-04S)

Sulfate

The following sample was diluted for sulfate at the indicated amount due to concentrations that exceed the calibration range:

MW-04-120195DL (155919-03DL): 4x

Inorganics

Matrix Spike

The predigestion spike recovery for the following sample is outside the acceptable limits:

SW-03-120195S (155919-04S): zinc

The data is qualified accordingly.

Post Digestion Spike

A post digestion spike was performed for sample number SW-03-120195P (155919-04P) due to zinc recovery outside the acceptable limit in the predigestion spike.

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

CASE NARRATIVE
Client: Aneptek Corp.
Date: 1/19/96
ETL Lab No. 155919
Page-2

Matrix Duplicate

The duplicate analysis for the following sample contains the indicated parameter that falls outside the acceptable limits:

SW-03-120195D (155919-04D): zinc

The data is qualified accordingly.

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	SW-02-120195	Date Collected:	01-DEC-95
ETL Sample Number:	155919-07	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4495
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-07

CAS NO.	Compound	ug/l	ug/l	Qualifier
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SW02120195

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: 155919-07

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4495

Level: (low/med) LOW Date Received: 12/01/95

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-04-120195	Date Collected:	01-DEC-95
ETL Sample Number:	155919-08	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4496
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10	1	J
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-93-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-08

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-6	1,2,3-Trichloropropane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW04120195

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: 155919-08

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4496

Level: (low/med) LOW Date Received: 12/01/95

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	SW-03-120195 (MS/MSD)	Date Collected:	01-DEC-95
ETL Sample Number:	155919-09	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4497
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-09

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-88-4	Iodomethane	10		U
630-20-6	1.1.1.2-Tetrachloroethane	10		U
96-18-4	1.2.3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SW03

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: 155919-09

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4497

Level: (low/med) LOW Date Received: 12/01/95

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	SW-11-120195	Date Collected:	01-DEC-95
ETL Sample Number:	155919-10	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4498
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-10

CAS NO.	Compound	ug/l	ug/l	Qualifier
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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EPA SAMPLE NO.

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

SW11120195

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: 155919-10

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4498

Level: (low/med) LOW Date Received: 12/01/95

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	SW-01-120195	Date Collected:	01-DEC-95
ETL Sample Number:	155919-11	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4499
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-8	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U

C00054

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-11

CAS NO.	Compound	ug/l	ug/l	Qualifier
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SW01120195

Lab Name:ENVIROTEST LABS INC. Contract:STEWART ANG

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AC919

Matrix: (soil/water) WATER Lab Sample ID:155919-11

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4499

Level: (low/med) LOW Date Received:12/01/95

% Moisture: not dec. Date Analyzed:12/08/95

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-12-113095	Date Collected:	30-NOV-95
ETL Sample Number:	155919-12	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4500
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10	3	J
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U

C00061

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-12

CAS NO.	Compound	ug/l	ug/l	Qualifier
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1.2-Dibromoethane	10		U
96-12-8	1.2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U

C00862

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW12113095

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: 155919-12

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4500

Level: (low/med) LOW Date Received: 12/01/95

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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C00063

Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	TB-120195	Date Collected:	01-DEC-95
ETL Sample Number:	155919-13	Date Received:	01-DEC-95
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	08-DEC-95
% Solid:	NA	Report Date:	19-JAN-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	V4502
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA

Results are continued from the previous page for 155919-13

CAS NO.	Compound	ug/l	ug/l	Qualifier
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-120195

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: 155919-13

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4502

Level: (low/med) LOW Date Received: 12/01/95

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
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U.S. EPA - CLP

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE919

SOW No.: ILM02.0

EPA Sample No.	Lab Sample ID.
MW--12	155919-01
MW--04	155919-03
SW--03	155919-04
SW--01	155919-05
SW--11	155919-06
SW--02	155919-07

Were ICP interelement corrections applied? Yes/No YES

Were ICP background corrections applied? Yes/No YES
If yes-were raw data generated before application of background corrections? Yes/No NO

Comments:

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package and in the computer-readable data submitted on diskette has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Signature: Name: RONALD A. BAYER

Date: 1/19/96 Title: Lab Director

COVER PAGE - IN ILM02.0

C00136

315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890
FAX (914) 562-0841

Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK

Project Name: STEWART ANG SITE 1

ETL Sample Number: 155919-01

Client I.D.: MW-12-113095

Date Collected: 30-NOV-95

Matrix: 2 GW/WW

Date Received: 01-DEC-95

Comments:

Analysis	Result	Units	Method	Analyzed
Aluminum	460	UG/L	200.7	05-JAN-96
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	05-JAN-96
Arsenic	1.2 U	UG/L	206.2	02-JAN-96
Barium	18.8 B	UG/L	200.7	05-JAN-96
Beryllium	1.2 U	UG/L	200.7	05-JAN-96
Boron	24.4 B	UG/L	200.7	05-JAN-96
Cadmium	2.7 U	UG/L	200.7	05-JAN-96
Calcium	42600	UG/L	200.7	05-JAN-96
Chemical Oxygen Demand	17.9	MG/L	410.2	15-DEC-95
Chromium	10.3 U	UG/L	200.7	05-JAN-96
Cobalt	18.7 B	UG/L	200.7	05-JAN-96
Copper	4.3 B	UG/L	200.7	05-JAN-96
Cyanide, Total	10.0 U	UG/L	335.2	22-DEC-96
Iron	698	UG/L	200.7	05-JAN-96
Lead	2.3 B	UG/L	239.2	02-JAN-96
Magnesium	5530 B	UG/L	200.7	05-JAN-96
Manganese	3370	UG/L	200.7	05-JAN-96
Mercury	0.2 U	UG/L	245.1	29-DEC-95
Nickel	22.5 B	UG/L	200.7	05-JAN-96
Nitrate-Nitrite	0.2 U	MG/L	353.2	11-DEC-95
Potassium	774 B	UG/L	200.7	05-JAN-96
Selenium	1.8 B	UG/L	270.2	04-JAN-96
Silver	2.1 U	UG/L	200.7	05-JAN-96
Sodium	7520	UG/L	200.7	05-JAN-96
Thallium	1.2 U W	UG/L	279.2	04-JAN-96
Total Hardness	129	MG/L	200.7	05-JAN-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	12-DEC-95
Total Organic Carbon	1.9	MG/L	415.2	13-DEC-95
Total Phenols	0.01 U	MG/L	420.1	13-DEC-95
Vanadium	4.7 B	UG/L	200.7	05-JAN-96
Zinc	76.5 * N	UG/L	200.7	05-JAN-96

Remarks:

EnviroTest Laboratories Inc.
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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK

Project Name: STEWART ANG SITE 1

ETL Sample Number: 155919-02

Client I.D.: MW-12-120195

Date Collected: 01-DEC-95

Matrix: 2 GW/WW

Date Received: 01-DEC-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	86.9	MG/L	2320 B	05-DEC-95
BOD	4.2	MG/L	5210-B	01-DEC-95
Bromide	1.0 U	MG/L	300	04-DEC-95
Chlorides	7.7	MG/L	4500-CLB	15-DEC-95
Color	5.0	PT-CO	2120-B	04-DEC-95
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Sulfate	31.0	MG/L	375.4	28-DEC-95
Total Dissolved Solids	184	MG/L	160.1	06-DEC-95

Remarks:

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Newburgh, NY 12550
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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK

Project Name: STEWART ANG SITE 1

ETL Sample Number: 155919-03

Client I.D.: MW-04-120195

Date Collected: 01-DEC-95

Matrix: 2 GW/WW

Date Received: 01-DEC-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	176	MG/L	2320 B	05-DEC-95
Aluminum	53.1 B	UG/L	200.7	05-JAN-96
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	05-JAN-96
Arsenic	1.2 U	UG/L	206.2	02-JAN-96
BOD	14.1	MG/L	5210-B	01-DEC-95
Barium	12.0 B	UG/L	200.7	05-JAN-96
Beryllium	1.2 U	UG/L	200.7	05-JAN-96
Boron	59.9	UG/L	200.7	05-JAN-96
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	05-JAN-96
Calcium	70500	UG/L	200.7	05-JAN-96
Chemical Oxygen Demand	21.8	MG/L	410.2	15-DEC-95
Chlorides	2.0 U	MG/L	4500-CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	05-JAN-96
Cobalt	7.1 U	UG/L	200.7	05-JAN-96
Color	10	PT-CO	2120-B	04-DEC-95
Copper	3.9 B	UG/L	200.7	05-JAN-96
Cyanide, Total	10.0 U	UG/L	335.2	22-DEC-96
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	42.6 B	UG/L	200.7	05-JAN-96
Lead	1.8 B	UG/L	239.2	02-JAN-96
Magnesium	12000	UG/L	200.7	05-JAN-96
Manganese	783	UG/L	200.7	05-JAN-96
Mercury	0.2 U	UG/L	245.1	29-DEC-95
Nickel	17.2 B	UG/L	200.7	05-JAN-96
Nitrate-Nitrite	0.2 U	MG/L	353.2	11-DEC-95
Potassium	1590 B	UG/L	200.7	05-JAN-96
Selenium	1.6 U	UG/L	270.2	04-JAN-96
Silver	2.7 B	UG/L	200.7	05-JAN-96
Sodium	24400	UG/L	200.7	05-JAN-96
Sulfate	112	MG/L	375.4	28-DEC-95
Thallium	1.2 U	UG/L	279.2	04-JAN-96
Total Dissolved Solids	358	MG/L	160.1	06-DEC-95
Total Hardness	226	MG/L	200.7	05-JAN-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	12-DEC-95
Total Organic Carbon	7.7	MG/L	415.2	13-DEC-95
Total Phenols	0.01 U	MG/L	420.1	13-DEC-95

000139

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155919-03

Analysis	Result	Units	Method	Analyzed
Vanadium	4.8 B	UG/L	200.7	05-JAN-96
Zinc	43.1 * N	UG/L	200.7	05-JAN-96

Remarks:

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0554 EPA NY049

Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK

Project Name: STEWART ANG SITE 1

ETL Sample Number: 155919-04

Client I.D.: SW-03-120195 (MS/MSD)

Date Collected: 01-DEC-95

Matrix: 2 GW/WW

Date Received: 01-DEC-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	82.8	MG/L	2320 B	05-DEC-95
Aluminum	155 B	UG/L	200.7	05-JAN-96
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	05-JAN-96
Arsenic	1.2 U	UG/L	206.2	02-JAN-96
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	23.8 B	UG/L	200.7	05-JAN-96
Beryllium	1.2 U	UG/L	200.7	05-JAN-96
Boron	13.6 B	UG/L	200.7	05-JAN-96
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	05-JAN-96
Calcium	58400	UG/L	200.7	05-JAN-96
Chemical Oxygen Demand	11.9	MG/L	410.2	15-DEC-95
Chlorides	16.4	MG/L	4500-CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	05-JAN-96
Cobalt	7.1 U	UG/L	200.7	05-JAN-96
Color	20	PT-CO	2120-B	04-DEC-95
Copper	4.8 B	UG/L	200.7	05-JAN-96
Cyanide, Total	10.0 U	UG/L	335.2	22-DEC-96
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	70.0 B	UG/L	200.7	05-JAN-96
Lead	2.0 B	UG/L	239.2	02-JAN-96
Magnesium	5020 B	UG/L	200.7	05-JAN-96
Manganese	22.4	UG/L	200.7	05-JAN-96
Mercury	0.2 U	UG/L	245.1	29-DEC-95
Nickel	14.1 U	UG/L	200.7	05-JAN-96
Nitrate-Nitrite	0.2 U	MG/L	353.2	11-DEC-95
Potassium	729 B	UG/L	200.7	05-JAN-96
Selenium	2.0 B	UG/L	270.2	04-JAN-96
Silver	2.6 B	UG/L	200.7	05-JAN-96
Sodium	9470	UG/L	200.7	05-JAN-96
Sulfate	33.5	MG/L	375.4	28-DEC-95
Thallium	1.2 U	UG/L	279.2	04-JAN-96
Total Dissolved Solids	90	MG/L	160.1	06-DEC-95
Total Hardness	167	MG/L	200.7	05-JAN-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	12-DEC-95
Total Organic Carbon	3.9	MG/L	415.2	13-DEC-95
Total Phenols	0.01 U	MG/L	420.1	13-DEC-95

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155919-04

Analysis	Result	Units	Method	Analyzed
Vanadium	3.4 U	UG/L	200.7	05-JAN-96
Zinc	323 * N	UG/L	200.7	05-JAN-96

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK
Project Name: STEWART ANG SITE 1
ETL Sample Number: 155919-05
Client I.D.: SW-01-120195
Date Collected: 01-DEC-95
Matrix: 2 GW/WW
Date Received: 01-DEC-95
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	111	MG/L	2320 B	05-DEC-95
Aluminum	105 B	UG/L	200.7	05-JAN-96
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	05-JAN-96
Arsenic	1.2 U	UG/L	206.2	02-JAN-96
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	17.0 B	UG/L	200.7	05-JAN-96
Beryllium	1.2 U	UG/L	200.7	05-JAN-96
Boron	25.2 B	UG/L	200.7	05-JAN-96
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	05-JAN-96
Calcium	50400	UG/L	200.7	05-JAN-96
Chemical Oxygen Demand	15.9	MG/L	410.2	15-DEC-95
Chlorides	63.6	MG/L	4500-CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	05-JAN-96
Cobalt	7.1 U	UG/L	200.7	05-JAN-96
Color	15	PT-CO	2120-B	04-DEC-95
Copper	3.9 B	UG/L	200.7	05-JAN-96
Cyanide, Total	10.0 U	UG/L	335.2	22-DEC-96
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	347	UG/L	200.7	05-JAN-96
Lead	0.96 B	UG/L	239.2	02-JAN-96
Magnesium	6540	UG/L	200.7	05-JAN-96
Manganese	89.6	UG/L	200.7	05-JAN-96
Mercury	0.2 U	UG/L	245.1	29-DEC-95
Nickel	14.1 U	UG/L	200.7	05-JAN-96
Nitrate-Nitrite	0.2 U	MG/L	353.2	11-DEC-95
Potassium	356 B	UG/L	200.7	05-JAN-96
Selenium	1.6 U	UG/L	270.2	04-JAN-96
Silver	2.1 U	UG/L	200.7	05-JAN-96
Sodium	31000	UG/L	200.7	05-JAN-96
Sulfate	31.0	MG/L	375.4	28-DEC-95
Thallium	1.2 U	UG/L	279.2	04-JAN-96
Total Dissolved Solids	166	MG/L	160.1	06-DEC-95
Total Hardness	153	MG/L	200.7	05-JAN-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	12-DEC-95
Total Organic Carbon	3.3	MG/L	415.2	13-DEC-95
Total Phenols	0.01 U	MG/L	420.1	13-DEC-95

C00143

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155919-05

Analysis	Result	Units	Method	Analyzed
Vanadium	3.4 U	UG/L	200.7	05-JAN-96
Zinc	90.0 * N	UG/L	200.7	05-JAN-96

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK

Project Name: STEWART ANG SITE 1

ETL Sample Number: 155919-06

Client I.D.: SW-11-120195

Date Collected: 01-DEC-95

Matrix: 2 GW/WW

Date Received: 01-DEC-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	109	MG/L	2320 B	05-DEC-95
Aluminum	130 B	UG/L	200.7	05-JAN-96
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	05-JAN-96
Arsenic	1.2 U	UG/L	206.2	02-JAN-96
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	18.8 B	UG/L	200.7	05-JAN-96
Beryllium	1.2 U	UG/L	200.7	05-JAN-96
Boron	26.0 B	UG/L	200.7	05-JAN-96
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	05-JAN-96
Calcium	55100	UG/L	200.7	05-JAN-96
Chemical Oxygen Demand	9.9	MG/L	410.2	15-DEC-95
Chlorides	64.6	MG/L	4500-CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	05-JAN-96
Cobalt	7.1 U	UG/L	200.7	05-JAN-96
Color	15	PT-CO	2120-B	04-DEC-95
Copper	4.0 B	UG/L	200.7	05-JAN-96
Cyanide, Total	10.0	UG/L	335.2	22-DEC-96
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	455	UG/L	200.7	05-JAN-96
Lead	1.6 B	UG/L	239.2	02-JAN-96
Magnesium	6990	UG/L	200.7	05-JAN-96
Manganese	101	UG/L	200.7	05-JAN-96
Mercury	0.2 U	UG/L	245.1	29-DEC-95
Nickel	16.7 B	UG/L	200.7	05-JAN-96
Nitrate-Nitrite	0.2 U	MG/L	353.2	11-DEC-95
Potassium	379 B	UG/L	200.7	05-JAN-96
Selenium	1.6 U	UG/L	270.2	04-JAN-96
Silver	2.1 U	UG/L	200.7	05-JAN-96
Sodium	33000	UG/L	200.7	05-JAN-96
Sulfate	31.0	MG/L	375.4	28-DEC-95
Thallium	1.2 U	UG/L	279.2	04-JAN-96
Total Dissolved Solids	220	MG/L	160.1	06-DEC-95
Total Hardness	167	MG/L	200.7	05-JAN-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	12-DEC-95
Total Organic Carbon	4.7	MG/L	415.2	13-DEC-95
Total Phenols	0.01 U	MG/L	420.1	13-DEC-95

C00145

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155919-06

Analysis	Result	Units	Method	Analyzed
Vanadium	3.4 U	UG/L	200.7	05-JAN-96
Zinc	111 * N	UG/L	200.7	05-JAN-96

Remarks:

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK

Project Name: STEWART ANG SITE 1

ETL Sample Number: 155919-07

Client I.D.: SW-02-120195

Date Collected: 01-DEC-95

Matrix: 2 GW/WW

Date Received: 01-DEC-95

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	145	MG/L	2320 B	05-DEC-95
Aluminum	66.3 B	UG/L	200.7	05-JAN-96
Ammonia-Nitrogen	0.2 U	MG/L	4500-NH3 F	07-DEC-95
Antimony	23.4 U	UG/L	200.7	05-JAN-96
Arsenic	1.2 U	UG/L	206.2	02-JAN-96
BOD	3.0 U	MG/L	5210-B	01-DEC-95
Barium	24.7 B	UG/L	200.7	05-JAN-96
Beryllium	1.2 U	UG/L	200.7	05-JAN-96
Boron	27.5 B	UG/L	200.7	05-JAN-96
Bromide	1.0 U	MG/L	300	04-DEC-95
Cadmium	2.7 U	UG/L	200.7	05-JAN-96
Calcium	67300	UG/L	200.7	05-JAN-96
Chemical Oxygen Demand	15.9	MG/L	410.2	15-DEC-95
Chlorides	66.5	MG/L	4500-CLB	15-DEC-95
Chromium	10.3 U	UG/L	200.7	05-JAN-96
Cobalt	7.1 U	UG/L	200.7	05-JAN-96
Color	30	PT-CO	2120 B	04-DEC-95
Copper	4.4 B	UG/L	200.7	05-JAN-96
Cyanide, Total	10.0 U	UG/L	335.2	22-DEC-96
Hexavalent Chromium	0.01 U	MG/L	7196	01-DEC-95
Iron	114	UG/L	200.7	05-JAN-96
Lead	1.4 B	UG/L	239.2	02-JAN-96
Magnesium	6640	UG/L	200.7	05-JAN-96
Manganese	366	UG/L	200.7	05-JAN-96
Mercury	0.2 U	UG/L	245.1	29-DEC-95
Nickel	14.3 B	UG/L	200.7	05-JAN-96
Nitrate-Nitrite	0.2 U	MG/L	353.2	11-DEC-95
Potassium	632 B	UG/L	200.7	05-JAN-96
Selenium	1.6 U	UG/L	270.2	04-JAN-96
Silver	2.2 B	UG/L	200.7	05-JAN-96
Sodium	34100	UG/L	200.7	05-JAN-96
Sulfate	30.0	MG/L	375.4	28-DEC-95
Thallium	1.2 U	UG/L	279.2	04-JAN-96
Total Dissolved Solids	242	MG/L	160.1	06-DEC-95
Total Hardness	195	MG/L	200.7	05-JAN-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	12-DEC-95
Total Organic Carbon	4.4	MG/L	415.2	13-DEC-95
Total Phenols	0.01 U	MG/L	420.1	13-DEC-95

000147

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 155919-07

Analysis	Result	Units	Method	Analyzed
Vanadium	3.4 U	UG/L	200.7	05-JAN-96
Zinc	125 * N	UG/L	200.7	05-JAN-96

Remarks:

C0C148

EnviroTest Laboratories Inc.
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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART ANG

Lab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AC919

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	MW0412019	100	102	104		0
02	MW1211305	100	100	104		0
03	SW0112019	104	102	106		0
04	SW0212019	102	104	102		0
05	SW03	104	106	106		0
06	SW03MS	102	102	106		0
07	SW03MSD	98	98	104		0
08	SW111201[illegible]	98	98	100		0
09	TB-120195	98	98	100		0
10	VBLKC4	102	104	104		0
11	VBSPK	98	96	98		0
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		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

b Name:ENVIROTEST LABS INC.   Contract:STEWART ANG

b Code:10142   Case No.: ####   SAS No.:#####   SDG No.:AC919

trix Spike - EPA Sample No.:   SW03

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
-Dichloroethene	20.	0.	21.	105	83-136
enzene	20.	0.	20.	100	64-170
chloroethene	20.	0.	20.	100	68-131
uene	20.	0.	20.	100	64-132
orobenzene	20.	0.	20.	100	91-115

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20.	20.	100	5	14	83-136
Benzene	20.	20.	100	0	14	64-170
Trichloroethene	20.	20.	100	0	11	68-131
uene	20.	19.	95	5	13	64-132
Chlorobenzene	20.	19.	95	5	13	91-115

Column to be used to flag recovery and RPD values with an asterisk

alues outside of QC limits

PD: 0 out of   5 outside limits
pike Recovery: 0 out of   10 outside limits

OMMENTS:

VOLATILE WATER BLANK SPIKE RECOVERY

Client Name: Aneptek

Lab Name: EnviroTest Laboratories, Inc.

ETL Sample No.: VBSPK

Client Sample ID.: VBSPK

Date of Analysis: 12/8/95

Instrument ID: MSD

COMPOUND	SPIKE ADDED (ug/l)	SAMPLE CONCENTRATION (ug/l)	BLKSPK CONCENTRATION (ug/l)	BLKSPK % REC. #	QC LIMITS REC.
1,1-Dichloroethene	20.00	U	20	100.0	83-136
Trichloroethene	20.00	U	20	100.0	64-170
Benzene	20.00	U	20	100.0	68-131
Toluene	20.00	U	20	100.0	64-132
Chlorobenzene	20.00	U	20	100.0	91-115

Column to be used to flag recovery values
* Values outside of EnviroTest established QC limits

FORM III VOA-1

EnviroTest Laboratories Inc.
315 Fullerton Avenue
Newburgh, NY 12550
(914) 562-0890
FAX (914) 562-0841
NJDEP 73507 CTDOHS PH-0554 EPA NY049

U.S. EPA - CLP

5A
SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

SW--03S

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE919

Matrix (soil/water): WATER   Level (low/med): LOW

% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2020.8670		155.2569	B	2000.00	93.3		PM
Antimony	75-125	519.0037		23.4444	U	500.00	103.8		PM
Arsenic	75-125	44.3333		1.2222	U	40.00	110.8		FM
Barium	75-125	1908.7231		23.8213	B	2000.00	94.2		PM
Beryllium	75-125	52.1618		1.2222	U	50.00	104.3		PM
Cadmium	75-125	51.3259		2.6667	U	50.00	102.7		PM
Calcium									NR
Chromium	75-125	202.7237		10.3333	U	200.00	101.4		PM
Cobalt	75-125	487.6058		7.1111	U	500.00	97.5		PM
Copper	75-125	250.7576		4.7567	B	250.00	98.4		PM
Iron	75-125	1014.0646		70.0196	B	1000.00	94.4		PM
Lead	75-125	24.8000		2.0111	B	20.00	113.9		FM
Magnesium									NR
Manganese	75-125	492.3953		22.3514		500.00	94.0		PM
Mercury	75-125	1.0930		0.2000	U	1.00	109.3		CV
Nickel	75-125	515.7158		14.1111	U	500.00	103.1		PM
Potassium									NR
Selenium	75-125	13.9667		1.9556	B	10.00	120.1		FM
Silver	75-125	44.0746		2.6093	B	50.00	82.9		PM
Sodium									NR
Thallium	75-125	50.1333		1.2222	U	50.00	100.3		FM
Vanadium	75-125	495.8983		3.4444	U	500.00	99.2		PM
Zinc	75-125	560.6350		322.7169		500.00	47.6	N	PM
Cyanide	75-125	88.0000		10.0000	U	100.00	88.0		C

omments:

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315 Fullerton Avenue
Newburgh, NY 12550
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FAX (914) 562-0841

U.S. EPA - CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

EPA SAMPLE NO.

SW--03A

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE919

Matrix (soil/water): WATER Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc		861.12		290.45		580.0	98.4		PM
Cyanide									NR

Comments:

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Newburgh, NY 12550
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6
DUPLICATES

EPA SAMPLE NO.

SW--03D

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE919

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		155.2569	B	95.5816	B	47.6		PM
Antimony		23.4444	U	23.4444	U			PM
Arsenic		1.2222	U	1.2222	U			FM
Barium		23.8213	B	22.2078	B	7.0		PM
Beryllium		1.2222	U	1.2222	U			PM
Cadmium		2.6667	U	2.6667	U			PM
Calcium		58404.2050		49857.7940		15.8		PM
Chromium		10.3333	U	10.3333	U			PM
Cobalt		7.1111	U	7.1111	U			PM
Copper		4.7567	B	4.8947	B	2.9		PM
Iron		70.0196	B	78.8322	B	11.8		PM
Lead		2.0111	B	1.1667	B	53.1		FM
Magnesium		5020.5137	B	4889.5050	B	2.6		PM
Manganese	16.7	22.3514		14.0231	B	45.8		PM
Mercury		0.2000	U	0.2000	U			CV
Nickel		14.1111	U	17.2760	B	200.0		PM
Potassium		728.6839	B	757.5744	B	3.9		PM
Selenium		1.9556	B	1.5556	U	200.0		FM
Silver		2.6093	B	3.8006	B	37.2		PM
Sodium	5555.6	9467.0914		9962.8917		5.1		PM
Thallium		1.2222	U	1.2222	U			FM
Vanadium		3.4444	U	3.4444	U			PM
Zinc		322.7169		125.1424		88.2	*	PM
Cyanide		10.0000	U	10.0000	U			C

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METHOD BLANK MATRIX SPIKE AND DUPLICATE RESULTS

ENVIROTEST LABORATORIES
LAB ID: 10142
CLIENT NAME: ANEPTEK
CLIENT ID: SW--03
MATRIX: AQUEOUS

DATE RECEIVED: 12/1/95
REPORT DATE: 1/9/96

RESULTS IN MG/L

ANALYTE	RESULT	Q	DUPLICATE	Q	RPD	Q	SAMPLE + SPIKE	SPIKE	%REC.	Q	METHOD BLANK	
ALKALINITY	82.80		84.80		2.4		185.80	100	103.0		2.0	U
AMMONIA	0.20	U	0.20	U	0.0		1.10	1.0	110.0		0.2	U
BOD	3.00	U	3.00	U	0.0				NR		1.0	U
BROMIDE	1.00	U	1.00	U	0.0		2.00	2.0	99.1		1.0 -	U
CHLORIDE	16.40		17.40		5.9		34.70	20	91.6		2.0	U
COD	11.90		15.90		28.8		51.60	50	91.3		2.0	U
HEXCHROME	0.01	U	0.01	U	0.0		1.90	0.02	95.0		0.01	U
NO3-NO2	0.20	U	0.20	U	0.0		0.53	0.5	106.0		0.2	U
SULFATE	33.50		34.50		2.9		54.00	20	102.5		5.0	U
TDS	90.00		92.00		2.2				NR		4.0	
TKN	0.50	U	0.50	U	0.0		2.10	2.0	105.0		0.5	U
TOC	3.94		3.85		2.1		23.23	20	96.5		0.5	U
PHENOLS	0.01	U	0.03	U	0.0		8.00	10.0	80.0		0.01	U

000162

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4A

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLKC4

Lab Name: ENVIROTEST LABS [illegible] Contract: STEWART ANG

Lab Code: 10142 Case No.: [illegible] SAS No.: ##### SDG No.: AC919

Lab File ID: V4494 Lab Sample ID: VBLKC4

Date Analyzed: 12/08/95 Time Analyzed: 1321

GC Column: DB-624 ID: [illegible] (mm) Heated Purge: (Y/N) N

Instrument ID: MSD

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW04120195	[illegible]5919-08	V4496	1609
02	MW12113095	[illegible]9[illegible]-12	V4500	1902
03	SW01120195	[illegible]9[illegible]-11	V4499	1819
04	SW02120195	[illegible]-07	V4495	1455
05	SW03	[illegible]-09	V4497	1652
06	SW03MS	[illegible]-09MS	V4503	2111
07	SW03MSD	[illegible]919-09MSD	V4504	2155
08	SW11120195	[illegible]919-10	V4498	1735
09	TB-120195	[illegible]919-13	V4502	2028
10	VBSPK	[illegible]K	V4501	1945
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COMMENTS:

5A

VOLATILE ORGANIC INSTRUMENT PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Lab File ID: BFB69 BFB Injection Date: 12/05/95

Instrument ID: MSD BFB Injection Time: 1048

GC Column: DB-624 ID: .53 (mm) Heated Purge: (Y/N) N

m/e	ION ABUNDANCE CRITERIA	% RELATIVE ABUNDANCE
50	8.0 - 40.0% of mass 95	19.5
75	30.0 - 66.0% of mass 95	53.8
95	Base peak, 100% relative abundance	100.0
96	5.0 - 9.0% of mass 95	6.7
173	Less than 2.0% of mass 174	0.0 (0.0)1
174	50.0 - 120.0% of mass 95	69.8
175	4.0 - 9.0% of mass 174	5.0 (7.2)1
176	93.0 - 101.0% of mass 174	67.5 (96.7)1
177	5.0 - 9.0% of mass 176	4.3 (6.4)2

1-Value is % mass 174 2-Value is % mass 176

THIS CHECK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD, BLANKS AND STANDARDS:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	DATE ANALYZED	TIME ANALYZED
01	VSTD005	VSTD005	VS835	12/05/95	0023
02	VSTD010	VSTD010	VS836	12/05/95	1305
03	VSTD020	VSTD020	VS837	12/05/95	1349
04	VSTD050	VSTD050	VS838	12/05/95	1436
05	VSTD100	VSTD100	VS839	12/05/95	1519
06					
07					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: VBLKC4
EnviroTest Lab No: VBLKC4
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml

Date Collected:
Date Received:
Date Analyzed: 12/8/95
Report Date: 1/19/96
Level: Low
Column: DB-624
Lab File ID: V4494
Dilution Factor: 1

AS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
4-87-3	Chloromethane	10	U
4-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
5-00-3	Chloroethane	10	U
5-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
5-35-4	1,1-Dichloroethene	10	U
75-35-3	1,1-Dichloroethane	10	U
156-60-5	1,2-Dichloroethene, Total	10	U
7-66-3	Chloroform	10	U
07-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
1-55-6	1,1,1-Trichloroethane	10	U
6-23-5	Carbon tetrachloride	10	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	10	U
8-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
1-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes, Total	10	U

FORM 1 - VOA

EnviroTest Laboratories Inc
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Newburgh, NY 12550
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VOLATILE ORGANICS ANALYSIS DATA SHEET

Client ID: VBLKC4
EnviroTest Lab No: VBLKC4
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml

Date Collected:
Date Received:
Date Analyzed: 12/8/95
Report Date: 1/19/96
Level: Low
Column: DB-624
Lab File ID: V4494
Dilution Factor: 1

CAS NO.	COMPOUND	Detection Limit ug/l	Conc. ug/l
106-03-4	1,2-Dibromoethane	10	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U
74-95-3	Dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
74-88-4	Iodomethane	10	U
630-20-6	1,1,1,2-Tetrachlorethane	10	U
96-18-4	1,2,3-Trichloropropane	10	U
75-69-4	Trichlorofluoromethane	10	U
107-13-1	Acrylonitrile	10	U
74-97-5	Bromochloromethane	10	U
541-73-1	1,3-Dichlorobenzene	10	U
95-50-1	1,2-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U

FORM I - VOA

EnviroTest Laboratories Inc.
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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKC4

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AC919

Matrix: (soil/water) WATER Lab Sample ID: VBLKC4

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: V4494

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. Date Analyzed: 12/08/95

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
Number TICs Found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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8

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART ANG

Lab Code: 10142 Case No.: SAS No.: ##### SDG No.: AC919

Lab File ID (Standard): VS[illegible]45 Date Analyzed: 12/08/95

Instrument ID: MSD Time Analyzed: 1128

GC Column: DB-624 ID: 0.[illegible] (mm) Heated Purge: (Y/N) N

1.7994

		IS1 (FBZ) AREA #	RT #	IS3 (CBZ) AREA #	RT #	AREA #	RT #
	12 HOUR STD	22[illegible] 79		201992	21.22		
	UPPER LIMIT	45[illegible]58		403984	21.72		
	LOWER LIMIT	114 40		100996	20.72		
	EPA SAMPLE NO.						
01	VBLKC4	22[illegible]52		198933	21.22		
02	SW02120195	226[illegible]89		202475	21.22		
03	MW04120195	225[illegible]48		202172	21.21		
04	SW03	[illegible]52	8	195066	21.21		
05	SW11120195	[illegible]26	8	195273	21.21		
06	SW01120195	2[illegible]34		193834	21.21		
07	MW12113095	[illegible]93		198982	21.21		
08	VBSPK	[illegible]77		194890	21.22		
09	TB-120195	22[illegible]74		200513	21.22		
10	SW03MS	21[illegible]10		192308	21.22		
11	SW03MSD	221[illegible]44		198588	21.21		
12							
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20							
21							
22							

IS1 (FBZ) = Fluorobenzene

IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside of QC limits with an asterisk.
* Values outside of QC limits.

COPY

SAMPLE DATA SUMMARY PACKAGE

Aneptek Corp.
Natick, MA
Project: Stewart Ang Site 1
ETL Lab. #: 163610
Matrix: Water

1 of 1

EnviroTest
Laboratories Inc.

315 Fullerton Avenue
Newburgh, NY 12550
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
163610-01	Water	7/29/96	7/29/96	----	8/7/96
163610-02	Water	7/29/96	7/29/96	----	8/7/96

EnviroTest Laboratories Inc.
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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
163610-01	Water	Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, T. Hardness, V, Zn	7/29/96	8/16/96
		ALK, Br, Cn, Phenols		7/31/96
		NH3, Hg, SO4, TOC		8/5/96
		As, COD,		8/7/96
		BOD		7/29/96
		Cl, Pb, Se		8/6/96
		Color, Cr+6, NO3-NO2		7/30/96
		Tl		8/9/96
		TDS, TKN		8/1/96

CASE NARRATIVE
Client: Aneptek Corp.
Date: 9/25/96
ETL Lab No. 163610

Volatiles

Calibration

Due to poor purging efficiency the calibration levels of acrylonitrile, iodomethane, carbon disulfide, vinyl acetate and t-1,4-dichloro-2-butene are 10, 20, 50, 100 and 200 ug/l.

Matrix Spike/Matrix Spike Duplicate(MS/MSD)

The matrix spike/matrix spike duplicate was not performed on a sample from laboratory number 163610. The MS/MSD submitted is from another laboratory number that was analyzed at the same time as laboratory number 163610.

Blank Spike

The percent recovery for 1,1-dichloroethene in the blank spike sample falls outside the established control limits. The percent recovery of 1,1-dichloroethene in the MS/MSD was within the established control limits.

Wet Chemistry

Phenols

Due to insufficient sample volume, the following samples were distilled for total phenol using 200ml instead of 500ml.

FB-7-29-96 (Potable)D (163610-01D)
FB-7-29-96 (Potable)S (163610-01S)

Chemical Oxygen Demand

The percent recovery for COD in the matrix spike falls outside the EnviroTest established control limits.

Total Dissolved Solids

The matrix duplicate was not performed on a sample from laboratory number 163610. The matrix duplicate submitted is from another laboratory number that was analyzed at the same time as laboratory number 163610.

Inorganics

Matrix Spike

The predigestion spike recovery for thallium in sample number FB-7-29-96 (Potable)S (163610-01S) falls outside the established control limits. The data is qualified accordingly.

Cyanide

Due to insufficient sample volume, the following samples were distilled for total phenol using 250ml instead of 500ml.

FB-7-29-96 (Potable)D (163610-01D)
FB-7-29-96 (Potable)S (163610-01S)

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	FB-7-24-96	Date Collected:	29-JUL-96
ETL Sample Number:	163610-01	Date Received:	29-JUL-96
Client Name:	ANEPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	07-AUG-96
% Solid:	NA	Report Date:	25-SEP-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	W2936
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10	68	
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10	4	J
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10	1	J
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10	2	J
108-88-3	Toluene	10	1	J
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10	1	J
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA
8240

Results are continued from the previous page for 163610-01

CAS NO.	Compound	ug/l	ug/l	Qualifier
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FB-7-24

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART

Lab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AN610

Matrix: (soil/water) WATER   Lab Sample ID: 163610-01

Sample wt/vol: 5.00 (g/ml) ML   Lab File ID: W2936

Level: (low/med) LOW   Date Received: 7/29/96

% Moisture: not dec.   Date Analyzed: 8/07/96

GC Column: DB-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: 0 (uL)   Soil Aliquot Volume: 0 (uL)

Number TICs Found: 0   CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 104-76-7	1-Hexanol, 2-ethyl-	31.44	7.	J
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Inorganics Analysis Data Sheet
Form I - IN

Client Name:	ANEPTEK	Project Name:	STEWART ANG SITE 1
ETL Sample Number:	163610-01		
Client I.D.:	FB-7-24-96		
Date Collected:	29-JUL-96	Matrix:	2 GW/WW
Date Received:	29-JUL-96		
Comments:			

Analysis	Result	Units	Method	Analyzed
Alkalinity	44.4	MG/L	2320B	31-JUL-96
Aluminum	384	UG/L	200.7	16-AUG-96
Ammonia-Nitrogen	1.0 U	MG/L	4500 NH3 E	05-AUG-96
Antimony	23.2 U	UG/L	200.7	16-AUG-96
Arsenic	2.4 U	UG/L	206.2	07-AUG-96
BOD	3.0 U	MG/L	5210-B	29-JUL-96
Barium	17.1 B	UG/L	200.7	16-AUG-96
Beryllium	1.2 U	UG/L	200.7	16-AUG-96
Boron	9.2 B	UG/L	200.7	16-AUG-96
Bromide	1.0 U	MG/L	300	31-JUL-96
Cadmium	4.9 U	UG/L	200.7	16-AUG-96
Calcium	25700	UG/L	200.7	16-AUG-96
Chemical Oxygen Demand	8.1 N	MG/L	410.2	07-AUG-96
Chlorides	21.5	MG/L	4500-CL B	06-AUG-96
Chromium	10.6 U	UG/L	200.7	16-AUG-96
Cobalt	6.3 U	UG/L	200.7	16-AUG-96
Color	150	PT-CO	2120-B	30-JUL-96
Copper	35.7	UG/L	200.7	16-AUG-96
Cyanide, Total	10.0 U	UG/L	335.2	31-JUL-96
Hexavalent Chromium	0.01 U	MG/L	3500-CRD	30-JUL-96
Iron	2180	UG/L	200.7	16-AUG-96
Lead	2.9 B	UG/L	239.2	06-AUG-96
Magnesium	1300 B	UG/L	200.7	16-AUG-96
Manganese	36.7	UG/L	200.7	16-AUG-96
Mercury	0.2 U	UG/L	245.1	05-AUG-96
Nickel	18.0 U	UG/L	200.7	16-AUG-96
Nitrate-Nitrite	0.32	MG/L	4500-NO3 F	30-JUL-96
Potassium	2150 B	UG/L	200.7	16-AUG-96
Selenium	2.2 U	UG/L	270.2	06-AUG-96
Silver	4.9 U	UG/L	200.7	16-AUG-96
Sodium	11800	UG/L	200.7	16-AUG-96
Sulfate	9.5	MG/L	375.4	05-AUG-96
Thallium	0.8 U W N	UG/L	279.2	09-AUG-96
Total Dissolved Solids	72	MG/L	160.1	01-AUG-96
Total Hardness	69.6	MG/L	200.7	16-AUG-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500-NH3 H	01-AUG-96
Total Organic Carbon	1.8	MG/L	5310-B	05-AUG-96
Total Phenols	0.01 U	MG/L	420.1	31-JUL-96

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 163610-01

Analysis	Result	Units	Method	Analyzed
Vanadium	7.9 U	UG/L	200.7	16-AUG-96
Zinc	69.9	UG/L	200.7	16-AUG-96

Remarks:

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	TB-7-29-96	Date Collected:	29-JUL-96
ETL Sample Number:	163610-02	Date Received:	29-JUL-96
Client Name:	ANAPTEK	Date Extracted:	
Project Name:	STEWART ANG SITE 1	Date Analyzed:	07-AUG-96
% Solid:	NA	Report Date:	25-SEP-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	W2937
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10	1	J
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
74-95-3	Dibromomethane	10		U
74-88-4	Iodomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA
8240

Results are continued from the previous page for 163610-02

CAS NO.	Compound	ug/l	ug/l	Qualifier
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
106-03-4	1,2-Dibromoethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-7-29

Lab Name:ENVIROTEST LABS INC.   Contract:STEWART

ab Code:10142   Case No.:#####   SAS No.:#####   SDG No.:AN610

Matrix: (soil/water) WATER   Lab Sample ID:163610-02

ample wt/vol: 5.00 (g/ml) ML   Lab File ID: W2937

Level: (low/med) LOW   Date Received: 7/29/96

Moisture: not dec.   Date Analyzed: 8/07/96

GC Column:DB-624   ID: 0.53 (mm)   Dilution Factor: 1.0

oil Extract Volume:0 (uL)   Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

umber TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN610

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
	============	======	======	======	======	===
01	FB-7-24	104	102	106		0
02	TB-7-29	104	102	104		0
03	VBLK126	102	100	102		0
04	VBSPK	100	102	104		0
05	ZZZZZMS	102	100	98		0
06	ZZZZZMSD	98	102	104		0
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		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

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3A
WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN610

Matrix Spike - EPA Sample No.: ZZZZZ

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	20.	0.	21.	105	75-113
Benzene	20.	0.	20.	100	71-110
Trichloroethene	20.	0.	21.	105	80-118
Toluene	20.	0.	21.	105	82-118
Chlorobenzene	20.	0.	20.	100	74-108

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20.	21.	105	0	14	75-113
Benzene	20.	20.	100	0	14	71-110
Trichloroethene	20.	21.	105	0	11	80-118
Toluene	20.	21.	105	0	13	82-118
Chlorobenzene	20.	20.	100	0	13	74-108

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

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VOLATILE WATER BLANK SPIKE RECOVERY

Client Name: Aneptek Corp.

Lab Name: EnviroTest Laboratories, Inc.

ETL Sample No.: VBSPK

Client Sample ID.: VBSPK

Date of Analysis: 8/7/96

Instrument ID: 5970

COMPOUND	SPIKE ADDED (ug/l)	SAMPLE CONCENTRATION (ug/l)	BLKSPK CONCENTRATION (ug/l)	BLKSPK % REC.	#	QC LIMITS REC.
1,1-Dichloroethene	20.00	U	23	115.0	#	75-113
Trichloroethene	20.00	U	22	110.0		71-110
Benzene	20.00	U	21	105.0		80-118
Toluene	20.00	U	22	110.0		82-118
Chlorobenzene	20.00	U	21	105.0		74-108

Column to be used to flag recovery values
* Values outside of EnviroTest established QC limits

FORM III VOA-1

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ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

72996 D

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE610

Matrix (soil/water): WATER   Level (low/med): LOW

% Solids for Sample: 0.0   % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum	222.2	383.6367		407.7943		6.1		PM
Antimony		23.2222	U	23.2222	U			PM
Arsenic		2.4444	U	2.4444	U			FM
Barium		17.1294	B	18.3014	B	6.6		PM
Beryllium		1.2222	U	1.2222	U			PM
Cadmium		4.8889	U	4.8889	U			PM
Calcium	5555.6	25695.2770		26126.8690		1.7		PM
Chromium	11.1	10.5556	U	11.9701		200.0		PM
Cobalt		6.3333	U	6.3333	U			PM
Copper	27.8	35.7021		36.9844		3.5		PM
Iron		2177.8264		2237.5320		2.7		PM
Lead		2.8889	B	1.7333	B	50.0		FM
Magnesium		1303.6998	B	1347.1172	B	3.3		PM
Manganese	16.7	36.7274		37.0859		1.0		PM
Mercury		0.2000	U	0.2000	U			CV
Nickel		18.0000	U	18.0000	U			PM
Potassium		2145.4570	B	2224.4144	B	3.6		PM
Selenium		2.2222	U	2.2222	U			FM
Silver		4.8889	U	4.8889	U			PM
Sodium	5555.6	11832.1800		12074.9770		2.0		PM
Thallium		0.7778	U	0.7778	U			FM
Vanadium		7.8889	U	7.8889	U			PM
Zinc	22.2	69.9200		77.6638		10.5		PM
Cyanide		10.0000	U	20.0000	U			C
Boron		9.1966	B	8.1463	B	12.1		PM

FORM VI - IN

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ENVIROFORMS/INORGANIC CLP

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

72996 S

Lab Name: ENVIROTEST LABORATORIES   Contract: STEWART

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE610

Matrix (soil/water): WATER   Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	2207.2909		383.6367		2000.00	91.2		PM
Antimony	75-125	455.5384		23.2222	U	500.00	91.1		PM
Arsenic	75-125	40.8556		2.4444	U	40.00	102.1		FM
Barium	75-125	1858.4737		17.1294	B	2000.00	92.1		PM
Beryllium	75-125	46.4610		1.2222	U	50.00	92.9		PM
Cadmium	75-125	43.8903		4.8889	U	50.00	87.8		PM
Calcium									NR
Chromium	75-125	189.1857		10.5556	U	200.00	94.6		PM
Cobalt	75-125	469.7462		6.3333	U	500.00	93.9		PM
Copper	75-125	263.6332		35.7021		250.00	91.2		PM
Iron	75-125	3040.5037		2177.8264		1000.00	86.3		PM
Lead	75-125	19.7000		2.8889	B	20.00	84.1		FM
Magnesium									NR
Manganese	75-125	502.6951		36.7274		500.00	93.2		PM
Mercury	75-125	1.0600		0.2000	U	1.00	106.0		CV
Nickel	75-125	488.3607		18.0000	U	500.00	97.7		PM
Potassium									NR
Selenium	75-125	8.1000		2.2222	U	10.00	81.0		FM
Silver	75-125	43.9851		4.8889	U	50.00	88.0		PM
Sodium									NR
Thallium	75-125	28.3111		0.7778	U	50.00	56.6	N	FM
Vanadium	75-125	478.6697		7.8889	U	500.00	95.7		PM
Zinc	75-125	559.7713		69.9200		500.00	98.0		PM
Cyanide	75-125	94.0000		10.0000	U	100.00	94.0		C
Boron	75-125	910.1319		9.1966		1000.00	90.1		PM

Comments:

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Newburgh, NY 12550
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METHOD BLANK MATRIX SPIKE AND DUPLICATE RESULTS

ENVIROTEST LABORATORIES
LAB ID: 10142
CLIENT NAME: ANEPTEK
CLIENT ID: FB-7-29-96
MATRIX: WATER

DATE PREPARED:
DATE RECEIVED: 7/29/96
REPORT DATE: 8/19/96

RESULTS IN MG/L

ANALYTE	RESULT	Q	DUPLICATE	Q	RPD	SAMPLE + SPIKE	SPIKE	%REC.	METHOD BLANK	
ALKALINITY	44.40		46.50		0.05	139.40	100	95.0	2.0	U
AMMONIA	1.00	U	1.00	U	0.00	8.00	7.50	93.8	1.0	U
BROMIDE	1.00	U	1.00	U	0.00	2.08	2.00	104.0	1.0	U
BOD	3.00	U	3.00	U	0.00				1.0	U
CHLORIDE	21.50		22.50		0.05	42.10	20	103.0	2.0	U
COD ***	44.70		48.80		0.09	44.70	50	81.3	4.0	U
HEXCHROME	0.01	U	0.01	U	0.00	0.021	0.02	105.0	0.01	U
NO3-NO2	0.32		0.31		0.03	0.86	0.50	108.0	0.20	U
SULFATE	9.50		10.00		0.05	20.50	10	110.0	5.0	U
PHENOLS	0.01	U	0.03	U	0.00	0.008	0.01	80.0	0.01	U
TDS **	132.00		126.00		0.05				2.0	
TKN	0.50	U	0.50	U	0.00	2.20	2.00	110.0	0.5	U
TOC	1.76		1.76		0.00	22.38	20.00	103.1	0.5	U

9/25/96

** batch related qc
*** ms/msd

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4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK126

Lab Name:ENVIROTEST LABS INC. Contract:STEWART

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AN610

Lab File ID:W2932 Lab Sample ID:VBLK126

Date Analyzed: 8/07/96 Time Analyzed:1320

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID: ~~MS2~~ 5970 9/26/96 LLT

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	FB-7-24	163610-01	W2936	1642
02	TB-7-29	163610-02	W2937	1732
03	VBSPK	VBSPK	W2939	1909
04	ZZZZZMS	ZZZZZMS	W2940	1958
05	ZZZZZMSD	ZZZZZMSD	W2942	2135
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COMMENTS:

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VOLATILE ORGANICS DATA RESULTS FORM

Client ID: VBLK126
EnviroTest Lab No: VBLK126
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml
Level: Low

Date Collected:
Date Received:
Date Extracted:
Date Analyzed: 8/7/96
Report Date: 9/25/96
Column: DB-624
Lab File ID: W2932.D
Dilution Factor: 1

CAS NO	COMPOUND	Detection Limit ug/l	Conc. ug/l
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene, total	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes, Total	10	U

FORM I - VOA

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VOLATILE ORGANICS DATA RESULTS FORM

Client ID: VBLK126
EnviroTest Lab No: VBLK126
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml
Level: Low

Date Collected:
Date Received:
Date Extracted:
Date Analyzed: 8/7/96
Report Date: 9/25/96
Column: DB-624
Lab File ID: W2932.D
Dilution Factor: 1

CAS NO	COMPOUND	Detection Limit ug/l	Conc. ug/l
95-50-1	1,2-Dichlorobenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
630-20-6	1,1,1,2-Tetrachloroethane	10	U
96-18-4	1,2,3-Trichloropropane	10	U
75-69-4	Trichlorofluoromethane	10	U
107-13-1	Acrylonitrile	10	U
74-97-5	Bromochloromethane	10	U
106-03-4	1,2-Dibromoethane	10	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U
74-95-3	Dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
74-88-4	Iodomethane	10	U

FORM I - VOA

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK126

Lab Name:ENVIROTEST LABS INC. Contract:STEWART

ab Code:10142 Case No.:##### SAS No.:##### SDG No.:AN610

Matrix: (soil/water) WATER Lab Sample ID:VBLK126

ample wt/vol: 5.00 (g/ml) ML Lab File ID: W2932

Level: (low/med) LOW Date Received: / /

Moisture: not dec. Date Analyzed: 8/07/96

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

oil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

umber TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 71-23-8	1-Propanol	14.97	9.	J
2.				
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FORM I VOA-TIC 3/90

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ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE610

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	37.3	U	37.3	U	37.3	U	64.6	B	41.444	U	PM
Antimony	-27.5	B	-23.6	B	-30.8	B	20.9	U	-38.405	B	PM
Arsenic	2.2	U	2.2	U	2.2	U	2.2	U	2.444	U	FM
Barium	1.3	U	1.3	U	1.3	U	1.3	U	1.444	U	PM
Beryllium	1.2	B	1.5	B	1.1	U	1.1	U	1.222	U	PM
Cadmium	4.4	U	4.4	U	4.4	U	4.4	U	4.889	U	PM
Calcium	15.6	U	15.6	U	17.3	B	15.6	U	17.333	U	PM
Chromium	9.5	U	9.5	U	9.5	U	9.5	U	10.556	U	PM
Cobalt	-6.7	B	5.7	U	5.7	U	5.7	U	6.333	U	PM
Copper	2.6	U	2.6	U	2.6	U	2.6	U	2.889	U	PM
Iron	5.7	U	10.3	B	5.7	U	5.9	B	6.333	U	PM
Lead	0.9	U	0.9	U	0.9	U	0.9	U	1.000	U	FM
Magnesium	26.2	U	26.2	U	26.2	U	26.2	U	29.111	U	PM
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	1.111	U	PM
Mercury	0.2	U	0.2	U	0.2	U			0.200	U	CV
Nickel	16.2	U	16.2	U	16.2	U	16.2	U	18.000	U	PM
Potassium	52.2	U	52.2	U	52.2	U	52.2	U	58.000	U	PM
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.000	U	FM
Silver	4.4	U	4.4	U	4.4	U	4.4	U	4.889	U	PM
Sodium	49.4	U	49.4	U	49.4	U	49.4	U	54.889	U	PM
Thallium	0.7	U	0.7	U	0.7	U			0.778	U	FM
Vanadium	7.1	U	7.1	U	7.1	U	7.1	U	7.889	U	PM
Zinc	3.0	U	3.0	U	3.0	U	3.0	U	3.333	U	PM
Cyanide	10.0	U	10.0	U					10.000	U	C
Boron	2.6	U	2.6	U	2.6	U	2.6	U	2.889	U	PM

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ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: STEWART

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE610

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic			2.2	U	2.2	U	2.2	U			FM
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			0.9	U							FM
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium			2.0	U	2.0	U	2.0	U			FM
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											
Boron											

FORM III - IN

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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN610

Lab File ID (Standard): WS428 Date Analyzed: 8/07/96

Instrument ID: ~~MS2~~ 5970 9/26/96 LLT Time Analyzed: 1023

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

9/26/96 LLT

		IS1 (FBZ) AREA #	RT #	IS3 (CBZ) AREA #	RT #	IS ( ) AREA #	RT #
	12 HOUR STD	3184913	18.78	2464006	25.66		
	UPPER LIMIT	6369826	19.28	4928012	26.16		
	LOWER LIMIT	1592457	18.28	1232003	25.16		
	EPA SAMPLE NO.						
01	VBLK126	3047897	18.79	2276687	25.66		
02	FB-7-24	2695557	18.77	2047707	25.65		
03	TB-7-29	2831459	18.77	2088826	25.65		
04	VBSPK	2896957	18.77	2275317	25.66		
05	ZZZZZMS	3316401	18.76	2549233	25.65		
06	ZZZZZMSD	3073364	18.76	2429197	25.65		
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IS1 (FBZ) = Fluorobenzene
IS ( ) =
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside of QC limits with an asterisk.
* Values outside of QC limits.

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0054 EPA NY049

COPY

SAMPLE DATA SUMMARY PACKAGE

Aneptek Corp.
Natick, MA
Project: 94160.34
ETL Lab. #: 164318
Matrix: Water

1 of 1

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NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
VOLATILE (VOA)
ANALYSES

Laboratory Sample ID	Matrix	Date Collected	Date Rec'd at Lab	Date Extracted	Date Analyzed
164318-01	Water	8/14/96	8/14/96	----	8/20/96
164318-02	Water	8/14/96	8/14/96	----	8/20/96
164318-03	Water	8/14/96	8/14/96	----	8/20/96
164318-04	Water	8/14/96	8/14/96	----	8/21/96

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

SAMPLE PREPARATION AND ANALYSIS SUMMARY
INORGANIC ANALYSES

Laboratory Sample ID	Matrix	Metals Requested	Date Rec'd at Lab	Date Analyzed
164318-01	Water	Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, T. Hardness, TKN, V, Zn	8/14/96	8/20/96
		ALK, Cn, SO4, Phenols		8/16/96
		NH3, Br, Cl, Color, Cr+6, Hg, NO3-NO2, TDS,		8/15/96
		As		8/23/96
		BOD		8/14/96
		COD, TOC		8/19/96
		Pb		8/26/96
		Se, Tl		8/22/96
164318-02	Water	Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, T. Hardness, TKN, V, Zn	8/14/96	8/20/96
		ALK, Cn, SO4, Phenols		8/16/96
		NH3, Br, Cl, Color, Cr+6, Hg, NO3-NO2, TDS,		8/15/96
		As		8/23/96
		BOD		8/14/96
		COD, TOC		8/19/96
		Pb		8/26/96
		Se, Tl		8/22/96
164318-03	Water	Al, Sb, Ba, Be, B, Cd, Ca, Cr, Co, Cu, Fe, Mg, Mn, Ni, K, Ag, Na, T. Hardness, TKN, V, Zn	8/14/96	8/20/96
		ALK, Cn, SO4, Phenols		8/16/96
		NH3, Br, Cl, Color, Cr+6, Hg, NO3-NO2, TDS,		8/15/96
		As		8/23/96
		BOD		8/14/96
		COD, TOC		8/19/96
		Pb		8/26/96
		Se, Tl		8/22/96

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CASE NARRATIVE
Client: Aneptek Corp.
Date: 9/26/96
ETL Lab No. 164318

Volatiles

Calibration

Due to poor purging efficiency the calibration levels of acrylonitrile, iodomethane, carbon disulfide, vinyl acetate and t-1,4-dichloro-2-butene are 10, 20, 50, 100 and 200 ug/l.

Matrix Spike/Matrix Spike Duplicate(MS/MSD)

The percent recovery for chlorobenzene in sample number MW-14-081496MSD (164318-01MSD) falls outside the established control limits.

Blank Spike

The percent recovery for 1,1-dichloroethene and chlorobenzene in the blank spike sample falls outside the established control limits.

Wet Chemistry

Chemical Oxygen Demand

The %RPD for COD falls outside the established limits. The data is qualified accordingly.

Inorganics

Matrix Spike

The predigestion spike recovery for lead, zinc in sample number MW-14-081496S (164318-01S) falls outside the established control limits. The data is qualified accordingly.

Matrix Duplicate

The %RPD for for lead, calcium and zinc in sample number MW-14-081496D (164318-01D) falls outside the established control limits. The data is qualified accordingly.

Post Digestion Spike

A post digestion spike for zinc was performed on sample number MW-14-081496P (164318-01P) due to predigestion spike recovery outside the established control limits. The post digestion spike recovery was 104.6%.

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-14

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN318

Matrix: (soil/water) WATER Lab Sample ID: 164318-01

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: W3059

Level: (low/med) LOW Date Received: 8/14/96

% Moisture: not dec. Date Analyzed: 8/20/96

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

Number TICs Found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 75-19-4	Cyclopropane	15.01	5.	J
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FORM I VOA-TIC 3/90

Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-14-081496	Date Collected:	14-AUG-96
ETL Sample Number:	164318-01	Date Received:	14-AUG-96
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	94160.34	Date Analyzed:	20-AUG-96
% Solid:	NA	Report Date:	25-SEP-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	W3059.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10	7	J
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10	2	J
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORP.
Project Name: 94160.34
ETL Sample Number: 164318-01
Client I.D.: MW-14-081496
Date Collected: 14-AUG-96
Matrix: 2 GW/WW
Date Received: 14-AUG-96
Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	154	MG/L	2320B	16-AUG-96
Aluminum	196 B	UG/L	200.7	20-AUG-96
Ammonia-Nitrogen	1.0 U	MG/L	4500 NH3E	15-AUG-96
Antimony	23.2 U	UG/L	200.7	20-AUG-96
Arsenic	2.4 U	UG/L	206.2	23-AUG-96
BOD	3.0 U	MG/L	5210-B	14-AUG-96
Barium	13.8 B	UG/L	200.7	20-AUG-96
Beryllium	1.2 U	UG/L	200.7	20-AUG-96
Boron	41.8 B	UG/L	200.7	20-AUG-96
Bromide	1.0 U	MG/L	300	15-AUG-96
Cadmium	4.9 U	UG/L	200.7	20-AUG-96
Calcium	55600 *	UG/L	200.7	20-AUG-96
Chemical Oxygen Demand	7.5 *	MG/L	410.2	19-AUG-96
Chlorides	4.9	MG/L	4500-CL B	15-AUG-96
Chromium	10.6 U	UG/L	200.7	20-AUG-96
Cobalt	6.3 U	UG/L	200.7	20-AUG-96
Color	10	PT-CO	2120-B	15-AUG-96
Copper	2.9 B	UG/L	200.7	20-AUG-96
Cyanide, Total	10 U	UG/L	335.2	16-AUG-96
Hexavalent Chromium	0.01 U	MG/L	3500 CRP	15-AUG-96
Iron	274	UG/L	200.7	20-AUG-96
Lead	7.0 * N	UG/L	239.2	26-AUG-96
Magnesium	9360	UG/L	200.7	20-AUG-96
Manganese	182	UG/L	200.7	20-AUG-96
Mercury	0.2 U	UG/L	245.1	15-AUG-96
Nickel	18.0 U	UG/L	200.7	20-AUG-96
Nitrate-Nitrite	0.2 U	MG/L	4500-NO3-F	15-AUG-96
Potassium	1390 B	UG/L	200.7	20-AUG-96
Selenium	2.2 U	UG/L	270.2	22-AUG-96
Silver	4.9 U	UG/L	200.7	20-AUG-96
Sodium	18000	UG/L	200.7	20-AUG-96
Sulfate	19	MG/L	375.4	16-AUG-96
Thallium	1.2 B	UG/L	279.2	22-AUG-96
Total Dissolved Solids	180	MG/L	160.1	15-AUG-96
Total Hardness	177	MG/L	200.7	20-AUG-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500 NH3 H	20-AUG-96
Total Organic Carbon	1.7	MG/L	5310-B	19-AUG-96
Total Phenols	0.01 U	MG/L	420.1	16-AUG-96

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Volatile Organics Analysis Data Sheet
Form I VOA
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Results are continued from the previous page for 164318-01

CAS NO.	Compound	ug/l	ug/l	Qualifier
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 164318-01

Analysis	Result	Units	Method	Analyzed
Vanadium	7.9 U	UG/L	200.7	20-AUG-96
Zinc	277 * N	UG/L	200.7	20-AUG-96

Remarks:

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-15

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN318

Matrix: (soil/water) WATER Lab Sample ID: 164318-02

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: W3060

Level: (low/med) LOW Date Received: 8/14/96

% Moisture: not dec. Date Analyzed: 8/20/96

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-15-081496	Date Collected:	14-AUG-96
ETL Sample Number:	164318-02	Date Received:	14-AUG-96
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	94160.34	Date Analyzed:	20-AUG-96
% Solid:	NA	Report Date:	25-SEP-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	W3060.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORP.

Project Name: 94160.34

ETL Sample Number: 164318-02

Client I.D.: MW-15-081496

Date Collected: 14-AUG-96

Matrix: 2 GW/WW

Date Received: 14-AUG-96

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	38.6	MG/L	2320B	16-AUG-96
Aluminum	9420	UG/L	200.7	20-AUG-96
Ammonia-Nitrogen	1.0 U	MG/L	4500 NH3E	15-AUG-96
Antimony	23.2 U	UG/L	200.7	20-AUG-96
Arsenic	2.7 B	UG/L	206.2	23-AUG-96
BOD	3.0 U	MG/L	5210-B	14-AUG-96
Barium	72.9 B	UG/L	200.7	20-AUG-96
Beryllium	1.2 U	UG/L	200.7	20-AUG-96
Boron	23.1 B	UG/L	200.7	20-AUG-96
Bromide	1.0 U	MG/L	300	15-AUG-96
Cadmium	4.9 U	UG/L	200.7	20-AUG-96
Calcium	32300 *	UG/L	200.7	20-AUG-96
Chemical Oxygen Demand	33.8 *	MG/L	410.2	19-AUG-96
Chlorides	14.7	MG/L	4500-CL B	15-AUG-96
Chromium	11.9	UG/L	200.7	20-AUG-96
Cobalt	12.5 B	UG/L	200.7	20-AUG-96
Color	15	PT-CO	2120-B	15-AUG-96
Copper	25.7 B	UG/L	200.7	20-AUG-96
Cyanide, Total	10 U	UG/L	335.2	16-AUG-96
Hexavalent Chromium	0.01 U	MG/L	3500 CRP	15-AUG-96
Iron	19300	UG/L	200.7	20-AUG-96
Lead	13.1 * N	UG/L	239.2	26-AUG-96
Magnesium	6290	UG/L	200.7	20-AUG-96
Manganese	916	UG/L	200.7	20-AUG-96
Mercury	0.2 U	UG/L	245.1	15-AUG-96
Nickel	21.1 B	UG/L	200.7	20-AUG-96
Nitrate-Nitrite	0.53	MG/L	4500-NO3-F	15-AUG-96
Potassium	2700 B	UG/L	200.7	20-AUG-96
Selenium	2.2 U W	UG/L	270.2	22-AUG-96
Silver	4.9 U	UG/L	200.7	20-AUG-96
Sodium	14900	UG/L	200.7	20-AUG-96
Sulfate	22	MG/L	375.4	16-AUG-96
Thallium	1.3 B	UG/L	279.2	22-AUG-96
Total Dissolved Solids	114	MG/L	160.1	15-AUG-96
Total Hardness	107	MG/L	200.7	20-AUG-96
Total Kjeldahl Nitrogen	1.2	MG/L	4500 NH3 H	20-AUG-96
Total Organic Carbon	1.7	MG/L	5310-B	19-AUG-96
Total Phenols	0.01 U	MG/L	420.1	16-AUG-96

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Volatile Organics Analysis Data Sheet
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Results are continued from the previous page for 164318-02

CAS NO.	Compound	ug/l	ug/l	Qualifier
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 164318-02

Analysis	Result	Units	Method	Analyzed
Vanadium	25.8 B	UG/L	200.7	20-AUG-96
Zinc	419 * N	UG/L	200.7	20-AUG-96

Remarks:

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MW-25

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN318

Matrix: (soil/water) WATER Lab Sample ID: 164318-03

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: W3061

Level: (low/med) LOW Date Received: 8/14/96

% Moisture: not dec. Date Analyzed: 8/20/96

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
Number TICs Found: 0 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	MW-25-081496	Date Collected:	14-AUG-96
ETL Sample Number:	164318-03	Date Received:	14-AUG-96
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	94160.34	Date Analyzed:	20-AUG-96
% Solid:	NA	Report Date:	25-SEP-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	W3061.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10		U
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U

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Volatile Organics Analysis Data Sheet
Form I VOA
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Results are continued from the previous page for 164318-03

CAS NO.	Compound	ug/l	ug/l	Qualifier
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U

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Inorganics Analysis Data Sheet
Form I - IN

Client Name: ANEPTEK CORP.

Project Name: 94160.34

ETL Sample Number: 164318-03

Client I.D.: MW-25-081496

Date Collected: 14-AUG-96

Matrix: 2 GW/WW

Date Received: 14-AUG-96

Comments:

Analysis	Result	Units	Method	Analyzed
Alkalinity	40.6	MG/L	2320B	16-AUG-96
Aluminum	9760	UG/L	200.7	20-AUG-96
Ammonia-Nitrogen	1.0 U	MG/L	4500 NH3E	15-AUG-96
Antimony	23.2 U	UG/L	200.7	20-AUG-96
Arsenic	3.4 B	UG/L	206.2	23-AUG-96
BOD	3.0 U	MG/L	5210-B	14-AUG-96
Barium	81.2 B	UG/L	200.7	20-AUG-96
Beryllium	1.2 U	UG/L	200.7	20-AUG-96
Boron	25.6 B	UG/L	200.7	20-AUG-96
Bromide	1.0 U	MG/L	300	15-AUG-96
Cadmium	4.9 U	UG/L	200.7	20-AUG-96
Calcium	30600 *	UG/L	200.7	20-AUG-96
Chemical Oxygen Demand	18.8 *	MG/L	410.2	19-AUG-96
Chlorides	15.7	MG/L	4500-CL B	15-AUG-96
Chromium	13.7	UG/L	200.7	20-AUG-96
Cobalt	10.1 B	UG/L	200.7	20-AUG-96
Color	15	PT-CO	2120-B	15-AUG-96
Copper	28.3	UG/L	200.7	20-AUG-96
Cyanide, Total	10 U	UG/L	335.2	16-AUG-96
Hexavalent Chromium	0.01 U	MG/L	3500 CRP	15-AUG-96
Iron	19300	UG/L	200.7	20-AUG-96
Lead	13.8 * N	UG/L	239.2	26-AUG-96
Magnesium	6200	UG/L	200.7	20-AUG-96
Manganese	870	UG/L	200.7	20-AUG-96
Mercury	0.3	UG/L	245.1	15-AUG-96
Nickel	25.8 B	UG/L	200.7	20-AUG-96
Nitrate-Nitrite	0.59	MG/L	4500-NO3-F	15-AUG-96
Potassium	2850 B	UG/L	200.7	20-AUG-96
Selenium	2.2 U W	UG/L	270.2	22-AUG-96
Silver	4.9 U	UG/L	200.7	20-AUG-96
Sodium	14900	UG/L	200.7	20-AUG-96
Sulfate	22	MG/L	375.4	16-AUG-96
Thallium	0.8 U	UG/L	279.2	22-AUG-96
Total Dissolved Solids	116	MG/L	160.1	15-AUG-96
Total Hardness	102	MG/L	200.7	20-AUG-96
Total Kjeldahl Nitrogen	0.5 U	MG/L	4500 NH3 H	20-AUG-96
Total Organic Carbon	5.1	MG/L	5310-B	19-AUG-96
Total Phenols	0.01 U	MG/L	420.1	16-AUG-96

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Inorganics Analysis Data Sheet
Form I - IN

Results are continued from the previous page for 164318-03

Analysis	Result	Units	Method	Analyzed
Vanadium	26.9 B	UG/L	200.7	20-AUG-96
Zinc	350 * N	UG/L	200.7	20-AUG-96

Remarks:

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Volatile Organics Analysis Data Sheet
Form I VOA

Client ID:	TB-08-14-96	Date Collected:	14-AUG-96
ETL Sample Number:	164318-04	Date Received:	14-AUG-96
Client Name:	ANEPTEK CORP.	Date Extracted:	
Project Name:	94160.34	Date Analyzed:	21-AUG-96
% Solid:	NA	Report Date:	25-SEP-96
Matrix:	2 GW/WW	Column:	DB-624
Sample Wt/Vol:	5ml	Lab File Id:	W3071.D
Level:	LOW	Dilution Factor:	1.00

CAS NO.	Compound	Detection Limit ug/l	Conc. ug/l	Data Qualifier
74-87-3	Chloromethane	10		U
74-83-9	Bromomethane	10		U
75-01-4	Vinyl chloride	10		U
75-00-3	Chloroethane	10		U
75-09-2	Methylene chloride	10	1	J
67-64-1	Acetone	10		U
75-15-0	Carbon disulfide	10		U
75-35-4	1,1-Dichloroethene	10		U
75-34-3	1,1-Dichloroethane	10		U
540-59-0	1,2-Dichloroethene(total)	10		U
67-66-3	Chloroform	10		U
107-06-2	1,2-Dichloroethane	10		U
78-93-3	2-Butanone	10		U
71-55-6	1,1,1-Trichloroethane	10		U
56-23-5	Carbon tetrachloride	10		U
108-05-4	Vinyl acetate	10		U
75-27-4	Bromodichloromethane	10		U
78-87-5	1,2-Dichloropropane	10		U
10061-01-5	cis-1,3-Dichloropropene	10		U
79-01-6	Trichloroethene	10		U
71-43-2	Benzene	10		U
124-48-1	Dibromochloromethane	10		U
10061-02-6	trans-1,3-Dichloropropene	10		U
79-00-5	1,1,2-trichloroethane	10		U
75-25-2	Bromoform	10		U
108-10-1	4-Methyl-2-pentanone	10		U
591-78-6	2-Hexanone	10		U
79-34-5	1,1,2,2-Tetrachloroethane	10		U
127-18-4	Tetrachloroethene	10		U
108-88-3	Toluene	10		U
108-90-7	Chlorobenzene	10		U
100-41-4	Ethylbenzene	10		U
100-42-5	Styrene	10		U
1330-20-7	Xylenes, Total	10		U
95-50-1	1,2-Dichlorobenzene	10		U
541-73-1	1,3-Dichlorobenzene	10		U
106-46-7	1,4-Dichlorobenzene	10		U
75-69-4	Trichlorofluoromethane	10		U
107-13-1	Acrylonitrile	10		U
74-97-5	Bromochloromethane	10		U
106-03-4	1,2-Dibromoethane	10		U
96-12-8	1,2-Dibromo-3-Chloropropane	10		U

Volatile Organics Analysis Data Sheet
Form I VOA
8240

Results are continued from the previous page for 164318-04

CAS NO.	Compound	ug/l	ug/l	Qualifier
74-95-3	Dibromomethane	10		U
110-57-6	trans-1,4-dichloro-2-butene	10		U
74-88-4	Iodomethane	10		U
630-20-6	1,1,1,2-Tetrachloroethane	10		U
96-18-4	1,2,3-Trichloropropane	10		U

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TB-08-14

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART

Lab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AN318

Matrix: (soil/water) WATER   Lab Sample ID: 164318-04

Sample wt/vol: 5.00 (g/ml) ML   Lab File ID: W3071

Level: (low/med) LOW   Date Received: 8/14/96

% Moisture: not dec.   Date Analyzed: 8/21/96

GC Column: DB-624   ID: 0.53 (mm)   Dilution Factor: 1.0

Soil Extract Volume: 0 (uL)   Soil Aliquot Volume: 0 (uL)

Number TICs Found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC   3/90

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2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: ENVIROTEST LABS INC.   Contract: STEWART

Lab Code: 10142   Case No.: #####   SAS No.: #####   SDG No.: AN318

	EPA SAMPLE NO.	SMC1 (TOL) #	SMC2 (BFB) #	SMC3 (DCE) #	OTHER	TOT OUT
01	MW-14	104	100	104		0
02	MW-14MS	104	102	114		0
03	MW-14MSD	104	104	114		0
04	MW-15	104	102	106		0
05	MW-25	106	102	110		0
06	TB-08-14	110	100	112		0
07	VBLK136	102	100	104		0
08	VBLK140	106	102	114		0
09	VBSPK	102	102	108		0
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		QC LIMITS
SMC1 (TOL)	= Toluene-d8	(88-110)
SMC2 (BFB)	= Bromofluorobenzene	(86-115)
SMC3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

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NYSDOH 10142   NJDEP 73507   CTDOHS PH-0054   EPA NY049

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN318

Matrix Spike - EPA Sample No.: MW-14

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC. LIMITS REC.
1,1-Dichloroethene	20.	0.	21.	105	75-113
Benzene	20.	0.	20.	100	71-110
Trichloroethene	20.	0.	20.	100	80-118
Toluene	20.	0.	20.	100	82-118
Chlorobenzene	20.	0.	20.	100	74-108

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20.	22.	110	5	14	75-113
Benzene	20.	22.	110	10	14	71-110
Trichloroethene	20.	22.	110	10	11	80-118
Toluene	20.	22.	110	10	13	82-118
Chlorobenzene	20.	22.	110*	10	13	74-108

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 1 out of 10 outside limits

COMMENTS:

FORM III VOA-1 3/90

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VOLATILE WATER BLANK SPIKE RECOVERY

Client Name: Aneptek Corp.

Lab Name: EnviroTest Laboratories, Inc.

ETL Sample No.: VBSPK

Client Sample ID.: VBSPK

Date of Analysis: 8/20/96

Instrument ID: 5970

COMPOUND	SPIKE ADDED (ug/l)	SAMPLE CONCENTRATION (ug/l)	BLKSPK CONCENTRATION (ug/l)	BLKSPK % REC. #	QC LIMITS REC.
1,1-Dichloroethene	20.00	U	23	115.0 #	75-113
Trichloroethene	20.00	U	22	110.0	71-110
Benzene	20.00	U	22	110.0	80-118
Toluene	20.00	U	21	105.0	82-118
Chlorobenzene	20.00	U	22	110.0 #	74-108

Column to be used to flag recovery values
* Values outside of EnviroTest established QC limits

FORM III VOA-1

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ENVIROFORMS/INORGANIC CLP

5A
SPIKE SAMPLE RECOVERY

SAMPLE NO.

MW--14S

Lab Name: ENVIROTEST LABORATORIES Contract: 94160134

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE318

Matrix (soil/water): WATER Level (low/med): LOW
% Solids for Sample: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum	75-125	1976.8583		196.0970	B	2000.00	89.0		PM
Antimony	75-125	438.3114		23.2222	U	500.00	87.7		PM
Arsenic	75-125	38.4556		2.4444	U	40.00	96.1		FM
Barium	75-125	1859.8370		13.7998	B	2000.00	92.3		PM
Beryllium	75-125	48.8048		1.2222	U	50.00	97.6		PM
Cadmium	75-125	44.4449		4.8889	U	50.00	88.9		PM
Calcium									NR
Chromium	75-125	191.9628		10.5556	U	200.00	96.0		PM
Cobalt	75-125	471.9554		6.3333	U	500.00	94.4		PM
Copper	75-125	232.0071		2.9400	B	250.00	91.6		PM
Iron	75-125	1214.0261		273.5626		1000.00	94.0		PM
Lead	75-125	19.6333		6.9556		20.00	63.4	N	FM
Magnesium									NR
Manganese	75-125	639.6002		182.4117		500.00	91.4		PM
Mercury	75-125	1.1500		0.2000	U	1.00	115.0		CV
Nickel	75-125	485.7496		18.0000	U	500.00	97.1		PM
Potassium									NR
Selenium	75-125	7.6444		2.2222	U	10.00	76.4		FM
Silver	75-125	39.8711		4.8889	U	50.00	79.7		PM
Sodium									NR
Thallium	75-125	58.2444		1.2222	B	50.00	114.0		FM
Vanadium	75-125	483.1642		7.8889	U	500.00	96.6		PM
Zinc	75-125	566.3914		276.8347		500.00	57.9	N	PM
Cyanide	75-125	92.0000		10.0000	U	100.00	92.0		C
Boron	75-125	959.1266		41.7678		1000.00	91.7		PM

Comments:

FORM V (PART 1) - IN

ENVIROFORMS/INORGANIC CLP

5B
POST DIGEST SPIKE SAMPLE RECOVERY

SAMPLE NO.

MW--14A

Lab Name: ENVIROTEST LABORATORIES   Contract: 94160134

Lab Code: 10142   Case No.:   SAS No.:   SDG No.: ANE318

Matrix (soil/water): WATER   Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR)	C	Sample Result (SR)	C	Spike Added (SA)	%R	Q	M
Aluminum									NR
Antimony									NR
Arsenic									NR
Barium									NR
Beryllium									NR
Cadmium									NR
Calcium									NR
Chromium									NR
Cobalt									NR
Copper									NR
Iron									NR
Lead									NR
Magnesium									NR
Manganese									NR
Mercury									NR
Nickel									NR
Potassium									NR
Selenium									NR
Silver									NR
Sodium									NR
Thallium									NR
Vanadium									NR
Zinc		772.28		249.15		500.0	104.6		PM
Cyanide									NR
Boron									NR

Comments:

FORM V (PART 2) - IN

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NYSDOH 10142   NJDEP 73507   CTDOHS PH-0054   EPA NY049

ENVIROFORMS/INORGANIC CLP

6
DUPLICATES

SAMPLE NO.

MW--14D

Lab Name: ENVIROTEST LABORATORIES Contract: 94160134

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE318

Matrix (soil/water): WATER Level (low/med): LOW

% Solids for Sample: 0.0 % Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum		196.0970	B	112.2354	B	54.4		PM
Antimony		23.2222	U	23.2222	U			PM
Arsenic		2.4444	U	2.4444	U			FM
Barium		13.7998	B	12.4260	B	10.5		PM
Beryllium		1.2222	U	1.2222	U			PM
Cadmium		4.8889	U	4.8889	U			PM
Calcium		55584.9690		43593.5910		24.2	*	PM
Chromium		10.5556	U	10.5556	U			PM
Cobalt		6.3333	U	6.3333	U			PM
Copper		2.9400	B	2.8889	U	200.0		PM
Iron	111.1	273.5626		197.2267		32.4		PM
Lead	3.3	6.9556		14.0444		67.5	*	FM
Magnesium	5555.6	9359.8722		8753.1781		6.7		PM
Manganese		182.4117		173.4842		5.0		PM
Mercury		0.2000	U	0.2000	U			CV
Nickel		18.0000	U	18.0000	U			PM
Potassium		1391.3081	B	1191.4076	B	15.5		PM
Selenium		2.2222	U	2.2222	U			FM
Silver		4.8889	U	4.8889	U			PM
Sodium	5555.6	17985.8470		16374.0440		9.4		PM
Thallium		1.2222	B	0.7778	U	200.0		FM
Vanadium		7.8889	U	7.8889	U			PM
Zinc	22.2	276.8347		95.0559		97.8	*	PM
Cyanide		10.0000	U	10.0000	U			C
Boron		41.7678		38.3612		8.5		PM

FORM VI - IN

EnviroTest Laboratories Inc.

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METHOD BLANK MATRIX SPIKE AND DUPLICATE RESULTS

ENVIROTEST LABORATORIES
LAB ID: 10142
CLIENT NAME: ANEPTEK
CLIENT ID: MW-14-081496
MATRIX: WATER

DATE PREPARED:
DATE RECEIVED: 8/14/96
REPORT DATE: 8/30/96

RESULTS IN MG/L

ANALYTE	RESULT	Q	DUPLICATE	Q	RPD	SAMPLE + SPIKE	SPIKE	%REC.	METHOD BLANK	
ALKALINITY	154.00		154.00		0.00	255.80	100	101.8	2.0	U
AMMONIA	1.00	U	1.00	U	0.00	7.72	8.00	96.6	1.0	U
BROMIDE	1.00	U	1.00	U	0.00	2.12	2.00	106.2	1.0	U
BOD	3.00	U	3.00	U	0.00				1.0	U
CHLORIDE	4.90		3.90		22.73	25.40	20	102.5	2.0	U
COD	7.50		11.30		40.43	52.50	50	97.7	4.0	U
HEXCHROME	0.01	U	0.01	U	0.00	0.020	0.02	100.0	0.01	U
NO3-NO2	0.20	U	0.20	U	0.00	0.84	0.80	105.0	0.20	U
SULFATE	19.00		19.00		0.00	29.50	10	105.0	5.0	U
PHENOLS	0.01	U	0.01	U	0.00	0.008	0.01	80.0	0.01	U
TDS	180.00		192.00		6.45				2.0	
TKN	0.50	U	0.50	U	0.00	2.10	2.00	105.0	0.5	U
TOC	1.72		1.72		0.20	19.97	20.00	91.3	0.5	U

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4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK136

Lab Name:ENVIROTEST LABS INC.   Contract:STEWART

Lab Code:10142   Case No.:#####   SAS No.:#####   SDG No.:AN318

Lab File ID:W3054   Lab Sample ID:VBLK136

Date Analyzed: 8/20/96   Time Analyzed:1649

GC Column:DB-624   ID: 0.53 (mm)   Heated Purge: (Y/N) N

Instrument ID:~~MS2~~ 5970 9/20/96

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW-14	164318-01	W3059	1739
02	MW-15	164318-02	W3060	1828
03	MW-25	164318-03	W3061	1917
04	VBSPK	VBSPK	W3062	2005
05				
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COMMENTS:

EnviroTest Laboratories Inc.

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NYSDOH 10142   NJDEP 73507   CTDOHS PH-0054   EPA NY049

VOLATILE ORGANICS DATA RESULTS FORM

Client ID: VBLK136
EnviroTest Lab No: VBLK136
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml
Level: Low

Date Collected:
Date Received:
Date Extracted:
Date Analyzed: 8/20/96
Report Date: 9/25/96
Column: DB-624
Lab File ID: W3054.D
Dilution Factor: 1

CAS NO	COMPOUND	Detection Limit ug/l	Conc. ug/l
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene, total	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes, Total	10	U

FORM I - VOA

VOLATILE ORGANICS DATA RESULTS FORM

Client ID: VBLK136
EnviroTest Lab No: VBLK136
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml
Level: Low

Date Collected:
Date Received:
Date Extracted:
Date Analyzed: 8/20/96
Report Date: 9/25/96
Column: DB-624
Lab File ID: W3054.D
Dilution Factor: 1

CAS NO	COMPOUND	Detection Limit ug/l	Conc. ug/l
95-50-1	1,2-Dichlorobenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
630-20-6	1,1,1,2-Tetrachloroethane	10	U
96-18-4	1,2,3-Trichloropropane	10	U
75-69-4	Trichlorofluoromethane	10	U
107-13-1	Acrylonitrile	10	U
74-97-5	Bromochloromethane	10	U
106-03-4	1,2-Dibromoethane	10	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U
74-95-3	Dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
74-88-4	Iodomethane	10	U

FORM I - VOA

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1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK136

Lab Name:ENVIROTEST LABS INC. Contract:STEWART

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AN318

Matrix: (soil/water) WATER Lab Sample ID:VBLK136

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: W3054

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. Date Analyzed: 8/20/96

GC Column:DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume:0 (uL) Soil Aliquot Volume:0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 71-23-8	1-Propanol	15.04	6.	J
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FORM I VOA-TIC 3/90

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FAX (914) 562-0841

4A
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

VBLK140

Lab Name:ENVIROTEST LABS INC. Contract:STEWART

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AN318

Lab File ID:W3067 Lab Sample ID:VBLK140

Date Analyzed: 8/21/96 Time Analyzed:1658

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

Instrument ID:~~MS2~~ 5970 9/26/96

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS, AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	MW-14MS	164318-01MS	W3069	1928
02	MW-14MSD	164318-01MSD	W3070	2016
03	TB-08-14	164318-04	W3071	2105
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COMMENTS:

FORM IV VOA 3/90

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NYSDOH 10142 NJDEP 73507 CTDOHS PH-0054 EPA NY049

VOLATILE ORGANICS DATA RESULTS FORM

Client ID: VBLK140
EnviroTest Lab No: VBLK140
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml
Level: Low

Date Collected:
Date Received:
Date Extracted:
Date Analyzed: 8/21/96
Report Date: 9/25/96
Column: DB-624
Lab File ID: W3067.D
Dilution Factor: 1

CAS NO	COMPOUND	Detection Limit ug/l	Conc. ug/l
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene chloride	10	U
67-64-1	Acetone	10	U
75-15-0	Carbon disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene, total	10	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon tetrachloride	10	U
108-05-4	Vinyl acetate	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
71-43-2	Benzene	10	U
124-48-1	Dibromochloromethane	10	U
10061-02-6	trans-1,3-Dichloropropene	10	U
79-00-5	1,1,2-Trichloroethane	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-pentanone	10	U
591-78-6	2-Hexanone	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
127-18-4	Tetrachloroethene	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylenes, Total	10	U

FORM I - VOA

VOLATILE ORGANICS DATA RESULTS FORM

Client ID: VBLK140
EnviroTest Lab No: VBLK140
Client Name: Aneptek
Project Name: Stewart ANG Site 1
% Solid:
Matrix: Water
Sample Wt/Vol: 5ml
Level: Low

Date Collected:
Date Received:
Date Extracted:
Date Analyzed: 8/21/96
Report Date: 9/25/96
Column: DB-624
Lab File ID: W3067.D
Dilution Factor: 1

CAS NO	COMPOUND	Detection Limit ug/l	Conc. ug/l
95-50-1	1,2-Dichlorobenzene	10	U
541-73-1	1,3-Dichlorobenzene	10	U
106-46-7	1,4-Dichlorobenzene	10	U
630-20-6	1,1,1,2-Tetrachloroethane	10	U
96-18-4	1,2,3-Trichloropropane	10	U
75-69-4	Trichlorofluoromethane	10	U
107-13-1	Acrylonitrile	10	U
74-97-5	Bromochloromethane	10	U
106-03-4	1,2-Dibromoethane	10	U
96-12-8	1,2-Dibromo-3-Chloropropane	10	U
74-95-3	Dibromomethane	10	U
110-57-6	trans-1,4-dichloro-2-butene	10	U
74-88-4	Iodomethane	10	U

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK140

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN318

Matrix: (soil/water) WATER Lab Sample ID: VBLK140

Sample wt/vol: 5.00 (g/ml) ML Lab File ID: W3067

Level: (low/med) LOW Date Received: / /

% Moisture: not dec. Date Analyzed: 8/21/96

GC Column: DB-624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: 0 (uL) Soil Aliquot Volume: 0 (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs Found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.				
2.				
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ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: 94160134

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE318

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum	37.3	U	37.3	U	37.3	U	37.3	U	41.444	U	PM
Antimony	20.9	U	20.9	U	-28.2	B	20.9	U	-25.564	B	PM
Arsenic	2.2	U	2.2	U	2.2	U	2.2	U	2.444	U	FM
Barium	1.3	U	1.3	U	1.3	U	1.3	U	1.444	U	PM
Beryllium	1.1	U	1.1	U	1.1	U	1.1	U	1.222	U	PM
Cadmium	4.4	U	4.4	U	4.4	U	4.4	U	4.889	U	PM
Calcium	15.6	U	15.6	U	15.6	U	15.6	U	36.870	B	PM
Chromium	9.5	U	9.5	U	9.5	U	9.5	U	10.556	U	PM
Cobalt	5.7	U	5.7	U	5.7	U	5.7	U	6.333	U	PM
Copper	2.6	U	2.6	U	2.6	U	2.6	U	2.889	U	PM
Iron	5.7	U	5.7	U	5.7	U	5.7	U	12.997	B	PM
Lead	0.9	U	0.9	U	-1.0	B	-1.4	B	-1.322	B	FM
Magnesium	26.2	U	26.2	U	26.2	U	26.2	U	29.111	U	PM
Manganese	1.0	U	1.0	U	1.0	U	1.0	U	1.532	B	PM
Mercury	0.2	U	0.2	U	0.2	U			0.200	U	CV
Nickel	16.2	U	16.2	U	16.2	U	16.2	U	18.000	U	PM
Potassium	52.2	U	52.2	U	52.2	U	-57.6	B	58.000	U	PM
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.222	U	FM
Silver	4.4	U	4.4	U	4.4	U	4.4	U	4.889	U	PM
Sodium	49.4	U	49.4	U	49.4	U	49.4	U	181.231	B	PM
Thallium	0.7	U	0.7	B	0.7	U	0.7	U	0.778	U	FM
Vanadium	7.1	U	7.1	U	7.1	U	-8.3	B	7.889	U	PM
Zinc	3.0	U	3.0	U	3.0	U	3.0	U	3.333	U	PM
Cyanide	10.0	U	10.0	U					10.000	U	C
Boron	-1.0		-1.0		0.5		-1.3		5.815		PM

FORM III - IN

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ENVIROFORMS/INORGANIC CLP

3
BLANKS

Lab Name: ENVIROTEST LABORATORIES Contract: 94160134

Lab Code: 10142 Case No.: SAS No.: SDG No.: ANE318

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L) 1	C	2	C	3	C	Preparation Blank	C	M
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			-1.4	B	-1.2	B					FM
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											
Boron											

FORM III - IN

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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name:ENVIROTEST LABS INC. Contract:STEWART

Lab Code:10142 Case No.:##### SAS No.:##### SDG No.:AN318

Lab File ID (Standard):WS444 Date Analyzed: 8/20/96

Instrument ID:~~MS2~~ 5970 9/20/96 LLT Time Analyzed:1256

GC Column:DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

9/23/94 LLT

		IS1 (FBZ) AREA #	RT #	IS3 (CBZ) AREA #	RT #	IS ( ) AREA #	RT #
	12 HOUR STD	3743575	18.82	3017110	25.71		
	UPPER LIMIT	7487150	19.32	6034220	26.21		
	LOWER LIMIT	1871788	18.32	1508555	25.21		
	EPA SAMPLE NO.						
01	VBLK136	3290429	18.86	2520833	25.73		
02	MW-14	3216087	18.83	2408469	25.72		
03	MW-15	3237798	18.83	2459084	25.71		
04	MW-25	3128756	18.83	2372575	25.72		
05	VBSPK	3198454	18.83	2564273	25.72		
06							
07							
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22							

IS1 (FBZ) = Fluorobenzene
IS =
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside of QC limits with an asterisk.
* Values outside of QC limits.

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8A

VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name: ENVIROTEST LABS INC. Contract: STEWART

Lab Code: 10142 Case No.: ##### SAS No.: ##### SDG No.: AN318

Lab File ID (Standard): WS447 Date Analyzed: 8/21/96

Instrument ID: ~~MS2~~ 5970 9/26/96 Time Analyzed: 1248

GC Column: DB-624 ID: 0.53 (mm) Heated Purge: (Y/N) N

		IS1 (FBZ) AREA #	RT #	IS3 (CBZ) AREA #	RT #	IS ( ) AREA #	RT #
	12 HOUR STD	4391259	18.85	3609478	25.72		
	UPPER LIMIT	8782518	19.35	7218956	26.22		
	LOWER LIMIT	2195630	18.35	1804739	25.22		
	EPA SAMPLE NO.						
01	VBLK140	3815294	18.87	3009716	25.74		
02	MW-14MS	3959236	18.84	3205958	25.72		
03	MW-14MSD	3769971	18.84	3020697	25.73		
04	TB-08-14	3991235	18.84	2948686	25.73		
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IS1 ( ) = Fluorobenzene
IS =
IS3 (CBZ) = Chlorobenzene-d5

AREA UPPER LIMIT = +100% of internal standard area
AREA LOWER LIMIT = - 50% of internal standard area
RT UPPER LIMIT = +0.50 minutes of internal standard RT
RT LOWER LIMIT = -0.50 minutes of internal standard RT

Column used to flag values outside of QC limits with an asterisk.
* Values outside of QC limits.

FORM VIII VOA 3/90

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APPENDIX J

DATA USABILITY REPORT

APPENDIX J

DATA USABILITY REPORT

1.0 ASSESSMENT OF DATA QUALITY OBJECTIVES

This data usability report presents a summary and assessment of the laboratory and field quality control (QC) samples generated throughout this landfill closure design. The data are assessed according to the quality assurance objectives of precision, accuracy, completeness, representativeness, and comparability. A summary of the analytical methods used in the sampling program is presented in Table J-1

The raw laboratory analytical data included with this report utilizes a variety of data qualifiers. For this report, only three qualifiers have been used:

"Not detected" - "Not detected" qualifiers ("U" qualifiers) flag analytes that were analyzed but not detected above detection limits. These also reflect data that were considered "not detected" as a result of blank analyses (Section 5.0).

"Estimated" - "Estimated" qualifiers ("J" qualifiers) flag results which have one or more QC deviations associated with the data. For this report, the "J" qualifier encompasses the following organic qualifiers used in the laboratory analytical report: "J", "B" and "E"; and the following inorganic qualifiers: "B", "E", "N","M" and "*".

"Rejected" - "Rejected" qualifiers ("R" qualifiers) flag results determined to be invalid through the analyses performed in support of this Data Usability Report.

With the exception of data from six ammonia analyses, quality assurance objectives were achieved during this sampling program. All data except those six flagged with "R" qualifiers are assessed to be representative and valid and should be considered acceptable.

2.0 HOLD TIME ANALYSIS

Hold times for sample extraction/preparation and analysis were monitored during this project. Hold time analysis entailed listing the samples, the date each sample was collected, and the date of sample analysis for each parameter requested. The elapsed time from sample collection to sample analysis was calculated and compared with the hold time specified in the project-specific Quality Assurance Project Plan (QAPP). Table J-2 presents the results of the hold time analysis. All hold times were acceptable except for ammonia analyses. The hold time of 28 days for ammonia analysis was exceeded by nine to ten days on the samples from monitoring wells 4 and 12, and from surface water locations 1 (including the field duplicate), 2 and 3. Data from these analyses were flagged with "R" qualifiers in the data summary, Table 5-16.

TABLE J-1
SUMMARY OF ANALYTICAL METHODS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

PARAMETER	METHOD	REFERENCE
LEACHATE INDICATORS		
Total Kjeldahl Nitrogen	SM174500 NH3E	1
Ammonia	SM174500 NH3 H	1
Nitrate-Nitrite	SM174500 NO3 F	1
Chemical Oxygen Demand	EPA 410.2	2
Biochemical Oxygen Demand	EPA 405.1	2
Total Organic Carbon	EPA 415.2	2
Total Dissolved Solids	EPA 160.1	2
Sulfate	EPA 375.4	2
Alkalinity	SM172320-B	1
Phenols	EPA 420.1	2
Chloride	SM174500-CLB	1
Bromide	EPA 300	2
Total Hardness as $CaCO_3$	EPA 200.7	2
Color	EPA 110.2	2
INORGANIC PARAMETERS		
Aluminum	EPA 200.7	2
Antimony	EPA 200.7	2
Arsenic	EPA 206.2	2, 3
Barium	EPA 200.7	2
Beryllium	EPA 200.7	2
Boron	EPA 200.7	2
Cadmium	EPA 200.7	2
Calcium	EPA 200.7	2
Chromium	EPA 200.7	2
Cobalt	EPA 200.7	2
Copper	EPA 200.7	2
Cyanide, Total	EPA 335.2	2
Hexavalent Chromium	SM183500 Cr-D	4
Iron	EPA 200.7	2
Lead	EPA 239.2	2, 3
Magnesium	EPA 200.7	2
Managnese	EPA 200.7	2
Mercury	EPA 245.1	2
Nickel	EPA 200.7	2
Potassium	EPA 200.7	2
Selenium	EPA 270.2	2,3
Silver	EPA 200.7	2
Sodium	EPA 200.7	2
Thallium	EPA 279.2	2, 3
Vanadium	EPA 200.7	2
Zinc	EPA 200.7	2
ORGANIC PARAMETERS		
Chloromethane	EPA 624	5
Bromomethane	EPA 624	5
Vinyl chloride	EPA 624	5
Chloroethane	EPA 624	5
Methylene chloride	EPA 624	5
Acetone	EPA 624	5
Carbon disulfide	EPA 624	5
1,1-Dichloroethene	EPA 624	5
1,1-Dichloroethane	EPA 624	5

1) "Standard Methods for the Examination of Water and Wastewater", 17th Edition, 1989.
2) "Methods for Chemical Analysis of Water and Wastewater", EPA-600/4-79-020, March 1983.
3) Atomic Absorption - Furnace Technique.
4) "Standard Methods for the Examination of Water and Wastewater", 18th Edition, 1992.
5) Federal Register, V. 50 No. 3, January 4, 1985.

TABLE J-1 (cont.)
ANALYTICAL METHODS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

PARAMETER	METHOD	REFERENCE
ORGANIC PARAMETERS (cont.)		
1,2-Dichloroethene (total)	EPA 624	5
Chloroform	EPA 624	5
1,2-Dichloroethane	EPA 624	5
2-Butanone	EPA 624	5
1,1,1-Trichloroethane	EPA 624	5
Carbon tetrachloride	EPA 624	5
Vinyl acetate	EPA 624	5
Bromodichloromethane	EPA 624	5
1,2-Dichloropropane	EPA 624	5
cis-1,3-Dichloropropene	EPA 624	5
Trichloroethene	EPA 624	5
Benzene	EPA 624	5
Dibromochloromethane	EPA 624	5
trans-1,3-Dichloropropene	EPA 624	5
1,1,2-Trichloroethane	EPA 624	5
Bromoform	EPA 624	5
4-Methyl-2-pentanone	EPA 624	5
2-Hexanone	EPA 624	5
1,1,2,2-Tetrachloroethane	EPA 624	5
Tetrachloroethene	EPA 624	5
Toluene	EPA 624	5
Chlorobenzene	EPA 624	5
Ethylbenzene	EPA 624	5
Styrene	EPA 624	5
Xylenes, Total	EPA 624	5
1,2-Dichlorobenzene	EPA 624	5
1,3-Dichlorobenzene	EPA 624	5
1,4-Dichlorobenzene	EPA 624	5
1,1,1,2-Tetrachloroethane	EPA 624	5
1,2,3-Trichloropropane	EPA 624	5
Trichlorofluoromethane	EPA 624	5
Acrylonitrile	EPA 624	5
Bromochloromethane	EPA 624	5
1,2-Dibromomethane	EPA 624	5
1,2-Dibromo-3-chloropropane	EPA 624	5
Dibromomethane	EPA 624	5
trans-1,4-dichloro-2-butene	EPA 624	5
Iodomethane	EPA 624	5

References
5) Federal Register, V. 50 No. 3, January 4, 1985.

TABLE J-2
HOLD TIME ANALYSIS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Sample I.D.	Date Sampled	Volatiles Analysis		Nitrate-Nitrite Analysis		Cyanide Analysis		Total Kjeldahl Nitrogen Analysis		Total Organic Carbon Analysis		Chemical Oxygen Demand Analysis		Mercury Analysis		Arsenic Analysis		Lead Analysis		Selenium Analysis		Phenol Analysis		Thalium Analysis		Total Metals Analysis	
154009-01(FB)	10/3/95	10/5/95	2			10/6/95	3							10/17/95	14	10/24/95	14	10/24/95	21	10/25/95	22			10/25/95	22	10/23/95	20
155817-01	11/29/95	12/6/95	7	12/1/95	2	12/15/95	16	12/27/95	28	12/8/95	9	12/6/95	7	12/5/95	6	12/13/95	6	12/6/95	7	12/6/95	7	12/6/95	7	12/14/95	15	12/19/95	20
155817-02	11/29/95	12/6/95	7	12/1/95	2	12/15/95	16	12/27/95	28	12/8/95	9	12/6/95	7	12/5/95	6	12/13/95	6	12/6/95	7	12/6/95	7	12/6/95	7	12/14/95	15	12/19/95	20
155817-03(TB)	11/29/95	12/6/95	7																								
155893-01	11/30/95			12/1/95	1	12/21/95	21	12/4/95	4	12/8/95	8	12/6/95	6	12/22/95	22	12/18/95	22	12/18/95	18	12/19/95	19	12/6/95	6	12/20/95	20	12/20/95	20
155893-02	11/30/95			12/1/95	1	12/21/95	21	12/4/95	4	12/8/95	8	12/6/95	6	12/22/95	22	12/18/95	22	12/18/95	18	12/19/95	19	12/6/95	6	12/20/95	20	12/20/95	20
155893-03	11/30/95			12/1/95	1	12/21/95	21	12/4/95	4	12/8/95	8	12/6/95	6	12/22/95	22	12/18/95	22	12/18/95	18	12/19/95	19	12/6/95	6	12/20/95	20	12/20/95	20
155893-04	11/30/95			12/1/95	1	12/21/95	21	12/4/95	4	12/8/95	8	12/6/95	6	12/22/95	22	12/18/95	22	12/18/95	18	12/19/95	19	12/6/95	6	12/20/95	20	12/20/95	20
155893-05	11/29/95	12/6/95	7			12/21/95	22							12/22/95	23	12/18/95	23	12/18/95	19	12/19/95	20			12/20/95	21	12/20/95	21
155893-06	11/30/95			12/1/95	1			12/5/95	5	12/8/95	8	12/6/95	6														
155893-07(TB)	11/30/95	12/7/95	7																								
155893-08	11/30/95	12/6/95	6	12/1/95	1	12/21/95	21	12/4/95	4	12/8/95	8	12/6/95	6	12/22/95	22	12/18/95	22	12/18/95	18	12/19/95	19	12/6/95	6	12/20/95	20	12/20/95	20
155893-09	11/30/95	12/6/95	6																								
155893-10	11/30/95	12/6/95	6																								
155893-11	11/30/95	12/6/95	6																								
155893-12	11/30/95	12/6/95	6																								
155893-13	11/30/95	12/7/95	7																								
155983-MS	11/30/95	12/7/95	7																								
155983-MSD	11/30/95	12/7/95	7																								
155893-14	11/30/95			12/1/95	1	12/21/95	21	12/4/95	4	12/8/95	8	12/6/95	6	12/22/95	22	12/18/95	22	12/18/95	18	12/19/95	19	12/6/95	6	12/20/95	20	12/20/95	20
155919-01	11/30/95			12/11/95	11	12/22/95	22	12/12/95	12	12/13/95	13	12/15/95	15	12/29/95	29	1/2/96	29	1/2/96	33	1/4/96	35	12/13/95	13	1/4/96	35	1/5/96	36
155919-02	12/1/95																										
155919-03	12/1/95			12/11/95	10	12/22/95	21	12/12/95	11	12/13/95	12	12/15/95	14	12/29/95	28	1/2/96	28	1/2/96	32	1/4/96	34	12/13/95	12	1/4/96	34	1/5/96	35
155919-04	12/1/95			12/11/95	10	12/22/95	21	12/12/95	11	12/13/95	12	12/15/95	14	12/29/95	28	1/2/96	28	1/2/96	32	1/4/96	34	12/13/95	12	1/4/96	34	1/5/96	35
155919-05	12/1/95			12/11/95	10	12/22/95	21	12/12/95	11	12/13/95	12	12/15/95	14	12/29/95	28	1/2/96	28	1/2/96	32	1/4/96	34	12/13/95	12	1/4/96	34	1/5/96	35
155919-06	12/1/95			12/11/95	10	12/22/95	21	12/12/95	11	12/13/95	12	12/15/95	14	12/29/95	28	1/2/96	28	1/2/96	32	1/4/96	34	12/13/95	12	1/4/96	34	1/5/96	35
155919-07	12/1/95	12/8/95	7	12/11/95	10	12/22/95	21	12/12/95	11	12/13/95	12	12/15/95	14	12/29/95	28	1/2/96	28	1/2/96	32	1/4/96	34	12/13/95	12	1/4/96	34	1/5/96	35
155919-08	12/1/95	12/8/95	7																								
155919-09	12/1/95	12/8/95	7																								
155919-09MS	12/1/95	12/8/95	7																								
155919-09MSD	12/1/95	12/8/95	7																								
155919-10	12/1/95	12/8/95	7																								
155919-11	12/1/95	12/8/95	7																								
155919-12	11/30/95	12/8/95	8																								
155919-13	11/30/95	12/8/95	8																								
163610-01(FB)	7/29/96	8/7/96	9	7/30/96	1	7/31/96	2	8/1/96	3	8/5/96	7	8/7/96	9	8/5/96	7	8/7/96	7	8/6/96	8	8/6/96	8	7/31/96	2	8/9/96	11	8/16/96	18
163610-02(TB)	7/29/96	8/7/96	9																								
164318-01	8/14/96	8/20/96	6	8/15/96	1	8/16/96	2	8/20/96	6	8/19/96	5	8/19/96	5	8/15/96	1	8/14/96	1	8/26/96	12	8/22/96	8	8/16/96	2	8/22/96	8	8/20/96	6
164318-01MS	8/14/96	8/21/96	7																								
164318-MSD	8/14/96	8/21/96	7																								
164318-02	8/14/96	8/20/96	6	8/15/96	1	8/16/96	2	8/20/96	6	8/19/96	5	8/19/96	5	8/15/96	1	8/14/96	1	8/26/96	12	8/22/96	8	8/16/96	2	8/22/96	8	8/20/96	6
164318-03	8/14/96	8/20/96	6	8/15/96	1	8/16/96	2	8/20/96	6	8/19/96	5	8/19/96	5	8/15/96	1	8/14/96	1	8/26/96	12	8/22/96	8	8/16/96	2	8/22/96	8	8/20/96	6
164318-04(TB)	8/14/96	8/21/96	7																								

Key: 11/30/95 = date analysis was performed
9 = number of days from date sampled to date of analysis

FB = field blank
MS = matrix spike
MSD = matrix spike duplicate
TB = trip blank

TABLE J-2 (cont.)
HOLD TIME ANALYSIS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

Sample I.D.	Date Sampled	Ammonia Analysis		Biochemical Oxygen Demand Analysis		Sulfate Analysis		Total Dissolved Solids Analysis		Alkalinity Analysis		Color analysis		Hexavalent Chromium Analysis		Bromide Analysis		Chloride Analysis	
154009-01(FB)	10/3/95																		
155817-01	11/29/95	12/7/95	8	11/29/95	0	12/21/95	22	12/1/95	2	11/30/95	1	11/30/95	1	11/30/95	1	12/4/95	5	12/4/95	5
155817-02	11/29/95	12/7/95	8	11/29/95	0	12/21/95	22	12/1/95	2	11/30/95	1	11/30/95	1	11/30/95	1	12/4/95	5	12/4/95	5
155817-03(TB)	11/29/95																		
155893-01	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155893-02	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155893-03	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155893-04	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155893-05	11/29/95																		
155893-06	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155893-07(TB)	11/30/95																		
155893-08	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155893-09	11/30/95																		
155893-10	11/30/95																		
155893-11	11/30/95																		
155893-12	11/30/95																		
155893-13	11/30/95																		
155983-MS	11/30/95																		
155983-MSD	11/30/95																		
155893-14	11/30/95	12/7/95	7	12/1/95	1	12/27/95	27	12/5/95	5	12/5/95	5	12/1/95	1	12/1/95	1	12/4/95	4	12/15/95	15
155919-01	11/30/95	1/7/96	38																
155919-02	12/1/95			12/1/95	0	12/28/95	27	12/6/95	5	12/5/95	4	12/4/95	3	12/1/95	0	12/4/95	3	12/15/95	14
155919-03	12/1/95	1/7/96	37	12/1/95	0	12/28/95	27	12/6/95	5	12/5/95	4	12/4/95	3	12/1/95	0	12/4/95	3	12/15/95	14
155919-04	12/1/95	1/7/96	37	12/1/95	0	12/28/95	27	12/6/95	5	12/5/95	4	12/4/95	3	12/1/95	0	12/4/95	3	12/15/95	14
155919-05	12/1/95	1/7/96	37	12/1/95	0	12/28/95	27	12/6/95	5	12/5/95	4	12/4/95	3	12/1/95	0	12/4/95	3	12/15/95	14
155919-06	12/1/95	1/7/96	37	12/1/95	0	12/28/95	27	12/6/95	5	12/5/95	4	12/4/95	3	12/1/95	0	12/4/95	3	12/15/95	14
155919-07	12/1/95	1/7/96	37	12/1/95	0	12/28/95	27	12/6/95	5	12/5/95	4	12/4/95	3	12/1/95	0	12/4/95	3	12/15/95	14
155919-08	12/1/95																		
155919-09	12/1/95																		
155919-09MS	12/1/95																		
155919-09MSD	12/1/95																		
155919-10	12/1/95																		
155919-11	12/1/95																		
155919-12	11/30/95																		
155919-13	11/30/95																		
163610-01(FB)	7/29/96	8/5/96	7	7/29/96	0	8/5/96	7	8/1/96	3	7/31/96	2	7/30/96	1	7/30/96	1	7/31/96	2	8/6/96	8
163610-02(TB)	7/29/96																		
164318-01	8/14/96	8/15/96	1	8/14/96	0	8/16/96	2	8/15/96	1	8/16/96	2	8/15/96	1	8/15/96	1	8/15/96	1	8/15/96	1
164318-01MS	8/14/96																		
164318-01MSD	8/14/96																		
164318-02	8/14/96	8/15/96	1	8/14/96	0	8/16/96	2	8/15/96	1	8/16/96	2	8/15/96	1	8/15/96	1	8/15/96	1	8/15/96	1
164318-03	8/14/96	8/15/96	1	8/14/96	0	8/16/96	2	8/15/96	1	8/16/96	2	8/15/96	1	8/15/96	1	8/15/96	1	8/15/96	1
164318-04(TB)	8/14/96																		

Key: 11/30/95 = date analysis was performed
9 = number of days from date sampled to date of analysis

FB = field blank
MS = matrix spike
MSD = matrix spike duplicate
TB = trip blank

3.0 DATA CONSISTENCY WITH PREVIOUS SAMPLING EVENTS

The only previous sampling program related to this Site was a 1987 Site Investigation. Analytical data collected for the SI report were not similar to that of this CIR (i.e., no baseline parameters). Therefor, the CSI is considered the initial site data.

4.0 EVALUATION OF FIELD DUPLICATE RESULTS

Field duplicates were collected to assess the representativeness of sample collection. Duplicate analytical results were compared, and a relative percent difference (RPD) was calculated for analytes that were detected. If an analyte was detected at less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL) in either the sample or the duplicate, the RPD was not calculated. If an analyte was detected in a sample but not the duplicate sample, the RPD was not calculated.

As set forth in the QAPP, the total number of field duplicates should equal 10 percent of the environmental samples taken. In this sampling program, 15 groundwater and surface water samples along with three field duplicates equaling 20 percent of the total number of environmental samples were collected.

Analytical results of the field duplicate analysis are presented in Table J-3. An RPD of less than 50 percent is considered adequate for field duplicates. This RPD was exceeded for three analytical results:

MW05 - RPD for zinc was 93.36 percent. However, laboratory qualifiers for this result indicate that the method duplicate analysis was not within control limits for this analyte, the spiked sample percent recovery (PR) was not within the control limit, and the result value was estimated due to interference.

MW-15 - RPD for Chemical Oxygen Demand (COD) was 57.03 percent. The laboratory qualifier for the COD result indicates that the method duplicate analysis was not within control limits.

MW15 - RPD for Total Organic Carbon (TOC) was 100 percent. The high RPD of TOC concentrations in this sample may have been the result of higher turbidity in the duplicate sample, as recorded in field observations at the time of sampling. Increased particulate matter in the duplicate sample might be expected to cause a higher TOC concentration.

These three results are considered acceptable as estimates and are flagged with "J" qualifiers in the data summary Table 5-16. Overall, RPD analysis of field duplicates indicates that the sampling was representative of actual environmental conditions.

TABLE J-3
CHEMICAL CONSTITUENTS DETECTED IN FIELD DUPLICATE SAMPLES
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

SAMPLE LOCATION	CONSTITUENT	SAMPLE CONCENTRATION (mg/L)		DUPLICATE CONCENTRATION (mg/L)		MEAN CONCENTRATION (mg/L)	% RPD
SW01	**LEACHATE INDICATORS**						
	Alkalinity	111		109		110	1.82
	COD	15.9		9.9		12.9	46.51
	Chlorides	63.6		64.6		64.1	1.56
	Sulfate	31		31		31	0.00
	TDS	166		220		193	27.98
	TH	153		167		160	8.75
	TOC	3.3		4.7		4	35.00
	INORGANIC PARAMETERS						
	Aluminum	0.105	J	0.13	J	0.1175	21.28
	Barium	0.017	J	0.0188	J	0.0179	10.06
	Boron	0.025	J	0.026	J	0.0255	3.92
	Calcium	50.4		55.1		52.75	8.91
	Copper	0.0039	J	0.004	J	0.00395	2.53
	Iron	0.347		0.455		0.401	26.93
	Lead	0.00096	J	0.0016	J	0.00128	50.00
	Magnesium	6.54		6.99		6.765	6.65
	Manganese	0.0896		0.101		0.0953	11.96
	Potassium	0.356	J	0.379	J	0.3675	6.26
	Sodium	31		33		32	6.25
	Zinc	0.09		0.111	J	0.1005	20.90
MW-5	**ORGANIC PARAMETERS**						
	Methylene Chloride	0.001		ND		NA	NA
	LEACHATE INDICATORS						
	Alkalinity	139		148		143.5	6.27
	COD	10		8		9	22.22
	Chlorides	83.9		83.9		83.9	0.00
	Sulfate	20		19.5		19.75	2.53
	Thallium	0.0016	J	ND		NA	NA
	TDS	336		338		337	0.59
	TH	267		246		256.5	8.19
	INORGANIC PARAMETERS						
	Aluminum	0.0556	J	0.0595	J	0.05755	6.78
	Antimony	0.0367	J	0.044	J	0.04035	18.09
	Barium	0.0331	J	0.0324	J	0.03275	2.14
	Boron	0.0129	J	0.0142	J	0.01355	9.59
	Cadmium	ND		0.0044	J	NA	NA
	Calcium	84.9	J	77.6	J	81.25	8.98
	Chromium	0.013		ND		NA	NA
	Copper	0.0046	J	0.006	J	0.0053	26.42
	Iron	0.102	J	0.174		0.138	52.17
	Lead	ND		0.0012	J	NA	NA
	Magnesium	13.5	J	12.8	J	13.15	5.32
	Manganese	0.709	J	0.681	J	0.695	4.03
	Potassium	0.877		0.817	J	0.847	7.08
	Silver	0.003	J	0.0034	J	0.0032	12.50
	Sodium	8.96	J	8.47	J	8.715	5.62
	Vanadium	0.0131	J	0.0054	J	0.00925	83.24
	Zinc	0.0861	J	0.0313	J	0.0587	93.36

J = Estimated value
ND = Not detected
mg/L = milligrams per liter

$$RPD = \left| \frac{\text{Concentration Sample - Concentration Duplicate}}{(\text{Concentration Sample + Concentration Duplicate})/2} \right| \times 100\%$$

TABLE J-3 (cont.)
FIELD DUPLICATE ANALYSIS FOR WATER SAMPLES
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

SAMPLE LOCATION	CONSTITUENT	SAMPLE CONCENTRATION (mg/L)		DUPLICATE CONCENTRATION (mg/L)		MEAN CONCENTRATION (mg/L)	% RPD
MW15	**LEACHATE INDICATORS**						
	Alkalinity	38.6		40.6		39.6	5.05
	COD	33.8	J	18.8	J	26.3	57.03
	Chlorides	14.7		15.7		15.2	6.58
	N03-N02	0.53		0.59		0.56	10.71
	Sulfate	22		22		22	0.00
	TDS	114		116		115	1.74
	TH	107		102		104.5	4.78
	TKN	1.2		ND		NA	NA
	TOC	1.7		5.1		3.4	100.00
	INORGANIC PARAMETERS						
	Aluminum	9.42		9.76		9.59	3.55
	Arsenic	0.0027	J	0.0034	J	0.00305	22.95
	Barium	0.0729	J	0.0812	J	0.07705	10.77
	Boron	0.0231	J	0.0256	J	0.02435	10.27
	Calcium	32.3	J	30.6	J	31.45	5.41
	Chromium	0.0119		0.0137		0.0128	14.06
	Cobalt	0.0125	J	0.0101	J	0.0113	21.24
	Copper	0.0257	J	0.0283		0.027	9.63
	Iron	19.3		19.3		19.3	0.00
	Lead	0.0131	J	0.0138	J	0.01345	5.20
	Magnesium	6.29		6.2		6.245	1.44
	Manganese	0.916		0.87		0.893	5.15
	Nickel	0.0211	J	0.0258	J	0.02345	20.04
	Potassium	2.7	J	2.85	J	2.775	5.41
	Sodium	14.9		14.9		14.9	0.00
	Thallium	0.0013	J	ND		NA	NA
	Vanadium	0.0258		0.0269	J	0.02635	4.17
	Zinc	0.419	J	0.35	J	0.3845	17.95

J = Estimated value
mg/L = milligrams per liter

$$RPD = \left| \frac{\text{Concentration Sample - Concentration Duplicate}}{\text{(Concentration Sample + Concentration Duplicate)/2}} \right| \times 100\%$$

5.0 ANALYSIS OF FIELD, TRIP, RINSATE AND METHOD BLANK SAMPLES

5.1 Field Blanks

This sampling program was considered a two event project. The first sampling event included sampling of all surface waters and monitoring wells 1 and 4 through 12. The second sampling event included sampling of monitoring wells 14 and 15. For each event, a field blank water sample was collected from the water truck used to supply water for final decontamination rinsing. Analytical data from all environmental samples were compared to the results of the corresponding field blanks. If the concentration of an inorganic analyte detected in a sample was less than five times the concentration detected in the field blank, the data was flagged with "J" qualifier. If data were already flagged with an "J" qualifier or other estimate qualifiers by the laboratory then no other qualifier was added as a result of the field blank analysis. If the concentration of an organic analyte detected in a sample was less than five times the concentration detected in the field blank, the data was considered "not detected" and flagged with a "U" qualifier. Though a concentration of 68 micrograms per liter (μg/L) of chloroform was detected in the field blank from the second sampling event (FB-7-24-96), only one detectable concentration of 2 μg/L was detected in the samples associated with this field blank. This data was flagged with a "U" qualifier. Chloroform frequently occurs in potable water as was used in the water truck that supplied the field blank. Results of the field blank analysis are presented in Table J-4.

5.2 Trip Blanks

Trip blanks were prepared by the laboratory and shipped to field personnel for use during sampling. A trip blank accompanied each shipment of samples requiring volatile organic analysis from the time of collection in the field through analysis in the laboratory. The trip blanks were analyzed by the same method as the accompanying samples, EPA Method 624. Estimated values of 1.0 μg/L methylene chloride were detected in two trip blanks from the second sampling event. However, methylene chloride was not detected in any of the samples associated with these trip blanks. No other constituents were detected in any trip blanks above detection limits. Results of the trip blank analysis are presented in Table J-4.

5.3 Equipment Rinsate Blanks

Groundwater samples were collected with dedicated Teflon-coated bailers, while surface water samples were collected directly from the surface water without equipment. Therefore no equipment rinsate samples were necessary.

5.4 Method Blanks

Method blanks were run for all appropriate analyses to verify that the laboratory equipment or environment did not introduce contaminants that would affect analytical results. If an organic

TABLE J-4
CHEMICAL CONSTITUENTS DETECTED IN FIELD AND TRIP BLANK SAMPLES
STWEART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

CONSTITUENT	SAMPLE						
	FBTW-100395	FB-072496	TB-112995	TB-113095	TB-120195	TB-072995	TB-081496
ORGANIC PARAMETERS (ug/l)							
Acetone	4 J	ND	ND	ND	ND	ND	ND
Chloroform	ND	68	ND	ND	ND	ND	ND
Bromodichloromethane	4 J	4 J	ND	ND	ND	ND	ND
Methylene chloride	ND	ND	ND	ND	ND	1 J	1 J
Trichloroethene	ND	1 J	ND	ND	ND	ND	ND
Tetrachloroethene	ND	2 J	ND	ND	ND	ND	ND
Toluene	ND	1 J	ND	ND	ND	ND	ND
Total Xylenes	ND	1 J	ND	ND	ND	ND	ND
LEACHATE INDICATORS (mg/L)							
COD	NA	8.1 J	ND	ND	ND	ND	ND
Chlorides	NA	21.5	ND	ND	ND	ND	ND
NO3-NO2	NA	0.32	ND	ND	ND	ND	ND
S04	NA	9.5	ND	ND	ND	ND	ND
TDS	NA	72	ND	ND	ND	ND	ND
TH	NA	69.6	ND	ND	ND	ND	ND
TOC	NA	1.8	ND	ND	ND	ND	ND
INORGANIC PARAMETERS (mg/L)							
Aluminum	0.281	0.384	ND	ND	ND	ND	ND
Barium	0.0109 J	0.0171 J	ND	ND	ND	ND	ND
Boron	NA	0.0092 J	ND	ND	ND	ND	ND
Calcium	11.9	25.7	ND	ND	ND	ND	ND
Copper	0.0104	0.0357	ND	ND	ND	ND	ND
Iron	0.986	2.18	ND	ND	ND	ND	ND
Lead	ND	0.0029 J	ND	ND	ND	ND	ND
Magnesium	1.09 J	1.3 J	ND	ND	ND	ND	ND
Manganese	0.0119 J	0.0367	ND	ND	ND	ND	ND
Potassium	1.3 J	2.15 J	ND	ND	ND	ND	ND
Sodium	10.1	11.8	ND	ND	ND	ND	ND
Zinc	0.0185	0.0699	ND	ND	ND	ND	ND

J = Estimated value
mg/L = milligrams per liter
ug/L = micrograms per liter

FB = Field Blank
NA = Not Applicable (not analyzed)
TB = Trip Blank

constituent was found in the method blank as well as the environmental sample, the data for the sample was flagged with a "J" qualifier. For common laboratory contaminants such as methylene chloride and acetone, if the concentration of the analyte in the sample was less than ten times the concentration in the blank the sample was reported as "not detected" for that analyte and a "U" qualifier was added to the data. For other constituents, the criterion was five times the concentration in the blank. Concentration of constituents detected in blanks were not subtracted from the analytical sample data.

6.0 EVALUATION OF MATRIX EFFECTS

6.1 Surrogate Spikes

Surrogate spike analysis was used to determine the efficiency of analyte recovery in sample preparation using gas chromatography (GC) and gas chromatography/mass spectrometry (GC/MS) methods. The calculated PR of the surrogate was used as a measure of the analytical method's accuracy. A surrogate spike was prepared by adding to an environmental sample (before extraction) known amounts of pure compounds with properties similar to those being analyzed in the sample but which are not normally found in environmental samples. The PR was compared to the acceptable PR range for the surrogate as specified in the QAPP and presented in Table J-5. All surrogate spike results were within the specified control limits.

6.2 Matrix Spikes/Matrix Spike Duplicates

Matrix spike (MS) and matrix spike duplicate (MSD) analyses were used to determine the accuracy and precision of an analytical method and to judge whether the sample matrix was interfering with the analysis. The PR of the spike samples were calculated and compared to the acceptable range as specified by each method. Precision of the method was assessed by calculating the RPD from the MS/MSD analysis and comparing the value with the acceptable range established for each method. These control limits are presented in Table J-5. A minimum of one MS/MSD sample was analyzed for every ten environmental samples or batch of samples analyzed together, whichever was smaller. PRs and RPDs were all within the ranges specified for each method for volatile organic analytes. Therefor, no matrix effects are believed to have biased the organic analytical results.

Matrix spikes analyses for leachates and inorganic constituents were also performed. Results of environmental samples were marked with an "J" qualifier if the spiked sample recovery was not within the control limits specified in Table J-5. Results for analytes including zinc, lead, thallium and silver were marked with "J" qualifiers in at least one spike sample analyses. However, none of the PR values for these analytes were below 47 percent, and all but three were 60 percent or above. It is unlikely these results indicate the presence of matrix interference with these analytical methods.

TABLE J-5
CONTROL LIMITS FOR MATRIX SPIKE/MATRIX SPIKE DUPLICATE AND SURROGATE COMPOUNDS
STEWART AIR NATIONAL GUARD BASE
NEWBURGH, NEW YORK

MATRIX SPIKE COMPOUND	RPD (Water)	% RECOVERY (Water)
ORGANIC PARAMETERS		
1,1-Dichloroethene	14	83-136
Benzene	14	64-170
Trichloroethene	11	68-131
Toluene	13	64-132
Chlorobenzene	13	91-115
INORGANIC PARAMETERS	20	75-125
Aluminum	20	75-125
Antimony	20	75-125
Arsenic	20	75-125
Barium	20	75-125
Berylium	20	75-125
Cadmium	20	75-125
Calcium	20	75-125
Chromium	20	75-125
Cobalt	20	75-125
Copper	20	75-125
Iron	20	75-125
Lead	20	75-125
Magnesium	20	75-125
Manganese	20	75-125
Mercury	20	75-125
Nickel	20	75-125
Potassium	20	75-125
Selenium	20	75-125
Silver	20	75-125
Sodium	20	75-125
Thallium	20	75-125
Vanadium	20	75-125
Zinc	20	75-125

SURROGATE COMPOUND	% RECOVERY (Water)
Toluene d_8	88-110
Bromofluorobenzene	86-115
1,2-Dichloroethane-d^4	76-114

RPD = Relative Percent Difference

7.0 ASSESSMENT OF QUALITY ASSURANCE OBJECTIVES

7.1 Completeness

Completeness of the sample analyses was determined in two ways. First, the number of sample locations was compared to the number anticipated in the work plan. As specified in the work plan, samples were collected from 12 monitoring wells and three surface water locations, for a total of 100 percent of the planned the sampling locations. Second, the number of laboratory analyses requested was compared to the number of analyses run that were considered valid. Although a complete laboratory data validation was not performed, analyses of major factors which typically cause data to be rejected (hold time, MS/MSD, field duplicates, trip blanks, field blanks, method blanks) were performed in this data quality assurance report. The data from six ammonia analyses were flagged with "R" qualifiers due to exceedance of the specified holding time. No other laboratory data was invalidated as a result of these analyses. One requested phenol analysis was not performed. Of the total of 396 analyses requested on 18 environmental samples (including field duplicates), the data from 389 (98 percent) were valid. The QA objective for completeness was specified as 90 percent or above in the QAPP.

7.2 Representativeness

Representativeness of samples was ensured through the sampling protocols specified in the QAPP, the use of dedicated bailers in collection of groundwater samples, and collection of appropriate field QC samples. Field blanks, trip blanks, and field duplicate samples reflected that the sampling technique was consistent and the samples were representative.

7.3 Precision

The objective for precision was to equal or exceed the precision demonstrated for the applied analytical methods on similar samples. Precision is evaluated most directly by recording and comparing multiple measurements of the same parameter on the same sample under the same conditions. It is expressed in terms of RPD. Analytical results of field duplicate samples were compared and RPDs were calculated. Overall, the RPDs between field duplicate samples were within acceptable ranges. For volatile organic parameters, RPD criteria were evaluated on samples spiked in duplicate with compounds specified in the QAPP. The spiking compounds used and their control limits for PR and RPD are listed in Table J-5. These control limits were met for all analyses.

7.4 Accuracy

A measurement's degree of accuracy is based on a comparison of the measured value with an accepted reference or known value. Accuracy of an analytical procedure is best determined by analyzing a sample and its corresponding matrix spike sample. Accuracy is expressed in terms

of PR. Similar to precision, the accuracy of recovery of an analyte to be expected for analysis of QC samples and spike samples is dependent on the matrix, method of analysis, and constituent being analyzed. In organic analyses, surrogate compounds with properties similar to the target compounds but which are not usually found in environmental samples are spiked into duplicate aliquots of the same environmental sample, and the recovery of each surrogate is calculated. The control limits for PR of surrogate compounds are listed in Table J-5. These objectives were met for the samples analyzed.

8.0 CONCLUSIONS

The data from six ammonia analyses were flagged with "R" qualifiers due to exceedance of the specified hold time. It was unnecessary to reject any other laboratory analytical data generated during this sampling program. All other data generated during this sampling program are assessed to be representative and valid and should be considered usable.

APPENDIX K

RESULTS OF VECTOR SURVEY

Northeast Ecological Services

Wetland Scientists & Ecologists

October 28, 1996

Mr. Michael Plumb
Project Manager
Aneptek Corporation
209 West Central Street
Natick, MA 01760

Re: Vector Survey, Stewart Air National Guard Base, Newburgh, NY

Dear Mr. Plumb:

On October 27 1995, Northeast Ecological Services (NES) inspected the former Base landfill located on the Stewart Air National Guard Base in Newburgh, New York. The purpose of the inspection was to identify the presence of potential wildlife species which may act as vectors between contaminants associated with the former Base landfill and nearby human receptors.

The Base landfill is approximately 8.5 acres in size and consists primarily of a grass cover type (containing both maintained mowed areas and non-maintained areas) with young forested uplands present along the eastern edge of the landfill. The vector survey was conducted by a biologist and consisted of examining the landfill site for evidence of wildlife species which typically seek subsurface cover (i.e., use burrows). Examples of wildlife species present in this region of New York that use burrows (or tunnels) include groundhog (*Marmota monax*), red fox (*Vulpes vulpes*), Norway rat (*Rattus norvegicus*), and eastern chipmunk (*Tamias striatus*). The Norway rat, in particular, is a common vector species present on landfill sites which may establish a fairly extensive network of tunnels beneath the landfill surface.

The vector survey did not reveal the presence of burrows or tunnels on the landfill site. Although several eastern chipmunks were noted on the site, this species generally does not burrow very extensively nor does this species attain high population densities as

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56 Middle Road • Cumberland, Maine 04110 • (207) 829-5635

the Norway rat often does on landfill sites. No evidence of Norway rats or groundhogs was observed during the vector survey. The absence of Norway rats at the site may be partially attributed to the lack of exposed landfill debris (particularly household garbage) noted at the landfill site.

Based on the survey completed at the former Base landfill located on the Stewart Air National Guard Base, vectors which may cause human health problems do not appear to be present at this landfill site.

Sincerely,

Scott J. Heim

Scott J. Heim, M.S.
Northeast Ecological Services

APPENDIX L

GRAIN SIZE ANALYSIS RESULTS

THIELSCH ENGINEERING, INC.

602 Neponset Street
Canton, Massachusetts 02021

195 Frances Avenue
Cranston, Rhode Island 02910

July 29, 1996

Aneptek Corporation
209 West Central Street
Natick, Massachusetts 01760

EVALUATION OF MATERIAL
TEI LAB # 756050

SAMPLE NUMBER	96-S164
DATE RECEIVED	25 July 1996
DATE TESTED	26 July 1996
IDENTIFICATION	GS - 1
SOURCE	NY
SAMPLE	One 44 lb. sample
METHOD OF ANALYSIS	ASTM D422

RESULTS
Sieve Analysis

	sieve size	% passing by weight
	2"	100
	1-1/2	100
	1	90
	3/4	84
	1/2	75
	3/8	71
	#4	61
	10	45
	20	37
	40	31
	50	28
	100	22
	200	17
Hydrometer Analysis		
	0.074 mm	17
	0.005	15
	0.001	12

Massachusetts
Tel. (617) 575-0162 • Fax (617) 821-8940

Rhode Island
Tel. (401) 467-6454 • Fax (401) 467-2398

REMARKS
Please do not hesitate to call should you have any questions concerning these test methods and results.

THIELSCH ENGINEERING, INC.

Pamela Olsen, Manager
Construction Testing Services

THIELSCH ENGINEERING, INC.

602 Neponset Street
Canton, Massachusetts 02021

195 Frances Avenue
Cranston, Rhode Island 02910

July 29, 1996

Aneptek Corporation
209 West Central Street
Natick, Massachusetts 01760

EVALUATION OF MATERIAL
TEI LAB # 756050

SAMPLE NUMBER	96-S165
DATE RECEIVED	25 July 1996
DATE TESTED	26 July 1996
IDENTIFICATION	GS - 2
SOURCE	NY
SAMPLE	One 40 lb. sample
METHOD OF ANALYSIS	ASTM D422

RESULTS
Sieve Analysis

sieve size	% passing by weight
2"	100
1-1/2	100
1	98
3/4	96
1/2	92
3/8	89
#4	82
10	73
20	64
40	61
50	55
100	48
200	41

Hydrometer Analysis

0.074 mm	40
0.005	31
0.001	22

REMARKS
Please do not hesitate to call should you have any questions concerning these test methods and results.

THIELSCH ENGINEERING, INC.

Pamela Olsen, Manager
Construction Testing Services

THIELSCH ENGINEERING, INC.

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July 29, 1996

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209 West Central Street
Natick, Massachusetts 01760

EVALUATION OF MATERIAL
TEI LAB # 756050

SAMPLE NUMBER	96-S166
DATE RECEIVED	25 July 1996
DATE TESTED	26 July 1996
IDENTIFICATION	GS - 3
SOURCE	NY
SAMPLE	One 41 lb. sample
METHOD OF ANALYSIS	ASTM D422

RESULTS
Sieve Analysis

sieve size	% passing by weight
2"	100
1-1/2	98
1	96
3/4	95
1/2	94
3/8	90
#4	84
10	78
20	69
40	61
50	57
100	51
200	43

Hydrometer Analysis

0.074 mm	40
0.005	24
0.001	18

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Tel. (617) 575-0162 • Fax (617) 821-8940

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Tel. (401) 467-6454 • Fax (401) 467-2398

TEI/AC
756050
96-S166
07/29/96

REMARKS
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THIELSCH ENGINEERING, INC.

Pamela Olsen

Pamela Olsen, Manager
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July 29, 1996

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209 West Central Street
Natick, Massachusetts 01760

EVALUATION OF MATERIAL
TEI LAB # 756050

SAMPLE NUMBER	96-S167
DATE RECEIVED	25 July 1996
DATE TESTED	26 July 1996
IDENTIFICATION	GS - 4
SOURCE	NY
SAMPLE	One 41 lb. sample
METHOD OF ANALYSIS	ASTM D422

RESULTS
Sieve Analysis

sieve size	% passing by weight
2"	100
1-1/2	96
1	94
3/4	92
1/2	88
3/8	85
#4	83
10	72
20	64
40	56
50	53
100	45
200	37

Hydrometer Analysis

0.074 mm	37
0.005	22
0.001	16

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REMARKS

Please do not hesitate to call should you have any questions concerning these test methods and results.

THIELSCH ENGINEERING, INC.

Pamela Olsen

Pamela Olsen, Manager
Construction Testing Services

ESTIMATION OF HYDRAULIC CONDUCTIVITY BASED ON GRAIN SIZE ANALYSIS OF SAMPLE GS-1
STEWART AIR NATIONAL GUARD BASE, NEWBURGH, NEW YORK

Sieve Size	d (cm)	Percent Passing By Weight	F	dm	F/dm
2"	5.08	100			
			0	4.399409051	0
1.5"	3.81	100			
			0.1	3.110851973	0.0321
1"	2.54	90			
			0.06	2.199704526	0.0273
0.75"	1.905	84			
			0.09	1.555425987	0.0579
0.50"	1.27	75			
			0.04	1.1001409	0.0364
0.375"	0.953	71			
			0.1	0.674932589	0.1482
#4	0.478	61			
			0.16	0.283379604	0.5646
10	0.168	45			
			0.08	0.118793939	0.6734
20	0.084	37			
			0.06	0.05939697	1.0102
40	0.042	31			
			0.03	0.03531855	0.8494
50	0.0297	28			
			0.06	0.021106871	2.8427
100	0.015	22			
			0.05	0.010535654	4.7458
200	0.0074	17			
			0.02	0.001923538	10.3975
0.005 mm	0.0005	15			
			0.03	0.000223607	134.1641
0.0001	0.0001	12			
			0.12	1.0000E−05	12,000.00
	1.0000E−06				
				Sum of F/dm =	12,155.55

Fluid Density =	999.7 kg/m³
Fluid Dynamic Viscosity =	0.001308 kg/(m sec²)
Porosity =	0.25
Shape Factor =	7
Soil Intrinsic Permeability =	7.6733E−09
Hydraulic Conductivity =	5.75E−04

ESTIMATION OF HYDRAULIC CONDUCTIVITY BASED ON
GRAIN SIZE ANALYSIS OF SAMPLE GS-2
STEWART AIR NATIONAL GUARD BASE, NEWBURGH, NEW YORK

Sieve Size	d (cm)	Percent Passing By Weight	F	dm	F/dm
2"	5.08	100			
			0	4.399409051	0
1.5"	3.81	100			
			0.02	3.110851973	0.0064
1"	2.54	98			
			0.02	2.199704526	0.0091
0.75"	1.905	96			
			0.04	1.555425987	0.0257
0.50"	1.27	92			
			0.03	1.1001409	0.0273
0.375"	0.953	89			
			0.07	0.674932589	0.1037
#4	0.478	82			
			0.09	0.283379604	0.3176
10	0.168	73			
			0.09	0.118793939	0.7576
20	0.084	64			
			0.03	0.05939697	0.5051
40	0.042	61			
			0.06	0.03531855	1.6988
50	0.0297	55			
			0.07	0.021106871	3.3165
100	0.015	48			
			0.08	0.010535654	7.5933
200	0.0074	40			
			0.09	0.001923538	46.7888
0.005 mm	0.0005	31			
			0.09	0.000223607	402.4922
0.0001	0.0001	22			
			0.22	1.0000E-05	22,000.00
	1.0000E-06				
				Sum of F/dm =	22,463.64

Fluid Density =	999.7 kg/m³
Fluid Dynamic Viscosity =	0.001308 kg/(m sec²)
Porosity =	0.25
Shape Factor =	7
Soil Intrinsic Permeability =	2.2468E-09
Hydraulic Conductivity =	1.68E-04

ESTIMATION OF HYDRAULIC CONDUCTIVITY BASED ON
GRAIN SIZE ANALYSIS OF SAMPLE GS-3
STEWART AIR NATIONAL GUARD BASE, NEWBURGH, NEW YORK

Sieve Size	d (cm)	Percent Passing By Weight	F	dm	F/dm
2"	5.08	100			
			0.02	4.399409051	0.004546065
1.5"	3.81	98			
			0.02	3.110851973	0.0064
1"	2.54	96			
			0.01	2.199704526	0.0045
0.75"	1.905	95			
			0.01	1.555425987	0.0064
0.50"	1.27	94			
			0.04	1.1001409	0.0364
0.375"	0.953	90			
			0.06	0.674932589	0.0889
#4	0.478	84			
			0.06	0.283379604	0.2117
10	0.168	78			
			0.09	0.118793939	0.7576
20	0.084	69			
			0.08	0.05939697	1.3469
40	0.042	61			
			0.04	0.03531855	1.1325
50	0.0297	57			
			0.06	0.021106871	2.8427
100	0.015	51			
			0.11	0.010535654	10.4407
200	0.0074	40			
			0.16	0.001923538	83.1800
0.005 mm	0.0005	24			
			0.06	0.000223607	268.3282
0.0001	0.0001	18			
			0.18	1.0000E-05	18000.00
	1.0000E-06				
				Sum of F/dm =	18,368.39

Fluid Density =	999.7 kg/m³
Fluid Dynamic Viscosity =	0.001308 kg/(m sec²)
Porosity =	0.25
Shape Factor =	7
Soil Intrinsic Permeability =	3.3604E-09
Hydraulic Conductivity =	2.52E-04

ESTIMATION OF HYDRAULIC CONDUCTIVITY BASED ON
GRAIN SIZE ANALYSIS OF SAMPLE GS-4
STEWART AIR NATIONAL GUARD BASE, NEWBURGH, NEW YORK

Sieve Size	d (cm)	Percent Passing By Weight	F	dm	F/dm
2"	5.08	100			
			0.04	4.399409051	0.00909213
1.5"	3.81	96			
			0.02	3.110851973	0.0064
1"	2.54	94			
			0.02	2.199704526	0.0091
0.75"	1.905	92			
			0.04	1.555425987	0.0257
0.50"	1.27	88			
			0.02	1.1001409	0.0182
0.375"	0.953	86			
			0.03	0.674932589	0.0444
#4	0.478	83			
			0.11	0.283379604	0.3882
10	0.168	72			
			0.08	0.118793939	0.6734
20	0.084	64			
			0.08	0.05939697	1.3469
40	0.042	56			
			0.03	0.03531855	0.8494
50	0.0297	53			
			0.08	0.021106871	3.7902
100	0.015	45			
			0.08	0.010535654	7.5933
200	0.0074	37			
			0.15	0.001923538	77.9813
0.005 mm	0.0005	22			
			0.06	0.000223607	268.3282
0.0001	0.0001	16			
			0.16	1.0000E-05	16,000.00
	1.0000E-06				
				Sum of F/dm =	16,361.06

Fluid Density =	999.7 kg/m³
Fluid Dynamic Viscosity =	0.001308 kg/(m sec²)
Porosity =	0.25
Shape Factor =	7
Soil Intrinsic Permeability =	4.2355E-09
Hydraulic Conductivity =	3.18E-04